Appendix H – Wetland Delineation Report

PHN Airport Appendices



WETLAND DELINEATION REPORT



ENVIRONMENTAL ASSESSMENT FOR RUNWAY 4/22 APPROACH CLEARING

ST CLAIR COUNTY INTERNATIONAL AIRPORT (PHN) PORT HURON, MI

PROJECT NUMBER 1937800-210771.01

January 2025

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APPENDICES

1. Executive Summary

St. Clair International Airport (Airport or PHN) is a public-use general aviation airport located approximately three miles west of the City of Marysville and five miles southwest of Port Huron in St. Clair County, Michigan. The airport is located approximately 54 miles northeast of Detroit in the Thumb region of Michigan.

The Airport proposes to clear, grub, and grade land located off the ends of Runway 4/22. The proposed action is needed to remove existing and potential obstructions identified as penetrations to the Federal Aviation Regulation (FAR) Part 77 Imaginary Surfaces, Threshold Siting Surface (TSS), Precision Approach Path Indicator (PAPI) Light Signal Clearance Surface (LSCS) and Obstacle Clearance Surface (OCS), as well as the State of Michigan Licensing Surface. Unmaintained vegetation has the potential to become obstructions to runway approaches in the future.

In support of environmental documentation for this project, a wetland delineation was conducted by Mead & Hunt, Inc. (Mead & Hunt) within an Area of Interest (AOI) over four site visits on August 16 – 23, 2022, October 3 – 7, 2022, June 6 –14, 2023, and September 25 – October 4, 2023. The AOI is in Sections 25, 26, 35, and 36, Township 6 North, Range 16 East and in Sections 2 and 3, Township 5N, Range 16 East in Kimball and St. Clair Townships, St. Clair County, Michigan. The AOI is split into two parts and totals approximately 442.75 acres.

Thirty-six (36) separate wetland boundaries were delineated within the AOI on airport property and are documented by sixty (60) sampling points. Five wetland classes are represented: Emergent (PEM), Scrubshrub (PSS), Forested (PFO), Shallow Marsh (PUB), and Excavated Ditch (RUBx). Several large multiclass wetland complexes were delineated ranging in size from a little over an acre to more than 30 acres. Of these thirty-six wetlands, four (4) streams/excavated ditches were delineated on airport property as part of larger wetland complexes.

Due to the inaccessibility of private parcels within the project AOI, areas on private property could not be field assessed on foot. Therefore, nine (9) wetlands were estimated based on desktop data sources. Estimated wetlands consist of the same five classes as above (PEM, PSS, PFO, PUBHx, and RUBx) and generally are extensions to delineated wetlands. Two excavated ponds (PUBHx) were mapped based on NWI data. Within these nine estimated wetlands, three (3) streams were estimated using multiple desktop data sources.

2. Introduction

St. Clair International Airport is a public-use general aviation airport located approximately three miles west of the City of Marysville and five miles southwest of Port Huron in St. Clair County, Michigan. The Airport is owned and operated by the County and is included in the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS). The State of Michigan designated the Airport as a Tier 1, C-II facility in the 2017 Michigan Airport System Plan (MASP).

The airport is located approximately 54 miles northeast of Detroit in Kimball and St. Clair Townships, in the Thumb region of Michigan. Interstate 94 (I-94) borders the airport on the east and south sides. Other surrounding local roads are Pickford Road on the east side of the Airport, Gratiot Ave on the south side, and Wadhams Road on the west side of the Airport. Smiths Creek Road borders the airfield on the north side with airport property extending to the north of this road. The Airport and Project Area of Interest (AOI) are shown on the Project Location Map provided in Appendix A.

Two paved runways support aircraft operations at PHN. Runway 4/22, the primary runway, is 5,104 feet long by 100 feet wide and oriented in a northeast-southwest direction. Runway 10/28 is the crosswind runway and is 4,000 feet long and 75 feet wide, oriented in an east-west direction. The Airport is approximately 1,135 acres in size and includes a general aviation terminal building, hangars, aprons, a fixed base operator (FBO), and a Snow Removal Equipment (SRE) building.

The Airport proposes to clear, grub, and grade land located off the ends of Runway 4/22. The proposed action is needed to remove existing and potential obstructions identified as penetrations to the Federal Aviation Regulation (FAR) Part 77 Imaginary Surfaces, Threshold Siting Surface (TSS), Precision Approach Path Indicator (PAPI) Light Signal Clearance Surface (LSCS) and Obstacle Clearance Surface (OCS), as well as the State of Michigan Licensing Surface.

Obstruction clearing is proposed on both airport property and private property in the approaches of Runway 4/22. Some private parcels with obstructions require new avigation easements to enable obstruction clearing. Initial field work efforts focusing on airport property were conducted over two site visits in 2022. Private parcel access was deemed unfeasible based on subsequent coordination with Airport personnel with knowledge of surrounding property owners. Two subsequent field visits conducted in June and September of 2023 completed field work efforts on airport property and assessed private parcels from accessible areas such as road rights-of-way (ROW) or from adjacent Airport-owned parcels. A parcel accessibility map is provided in Appendix A.

In support of environmental documentation for this project, a wetland delineation was conducted by Mead & Hunt, Inc. (Mead & Hunt) within an Area of Interest (AOI) over four site visits on August 16 – 23, 2022, October 3 – 7, 2022, June 6 –14, 2023, and September 25 – October 4, 2023. The AOI is in Sections 25, 26, 35, and 36, Township 6 North, Range 16 East and in Sections 2 and 3, Township 5N, Range 16 East in Kimball and St. Clair Townships, St. Clair County, Michigan. The AOI is split into two parts and totals approximately 442.75 acres.

This report summarizes the results of the wetland delineation. Delineator qualifications are provided in Appendix I. Mead & Hunt staff who performed the wetland delineation are:

- Brauna Hartzell, BS Biological Science, Florida State University, 1982; MS Environmental Monitoring, University of Wisconsin-Madison, 1994; 22 years wetland delineation practice.
- Caroline Bruchman, BS Geographical Sciences, University of Maryland, 2017; MS Geographical Sciences, University of Maryland, 2018; 1 year wetland delineation practice.
- Kim Shannon, BS Biology, Oklahoma State University, 1994; MS Applied and Natural Science (Botany), Oklahoma State University, 1997; 11 years wetland delineation practice.

3. Methods

The wetland delineation made use of the following available resources to provide context and background information and assist in the field assessment:

- Antecedent Precipitation Tool, Version 2.0, 2022 (U.S. Army Corps of Engineers, Engineer Research and Development Center). Accessed December 2023.
- Climate Data and Summary Reports from AgACIS for Port Huron, MI. Accessed at http://agacis.rcc-acis.org/. Accessed December 2023.
- LiDAR Elevation Contour Data for St. Clair County (2017), one-foot contour interval from 2017
 LiDAR collected as part of the Michigan Statewide Authoritative Imagery & LiDAR Program
 (MiSAIL). Data obtained from Southeast Michigan Council of Governments (SEMCOG) GIS Data Portal (https://contours.semcog.org/).
- Michigan Wetlands Map Viewer, accessed from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) at https://www.mcgi.state.mi.us/wetlands/.
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory mapping accessed at https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.
- 2022 National Wetland Plant List (U.S. Army Corps of Engineers 2023, National Wetland Plant List, version 3.6).
- Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.2, 2018.
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey. Accessed at Web Soil Survey at http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.
- Aerial photography from USDA Farm Service Agency (USDA-FSA) National Agriculture Imagery Program (NAIP) from NAIP Imagery Map Service (WMS). Accessed at https://gis.apfo.usda.gov/arcgis/rest/services/.
- Aerial photography from Midland County, MI, 6-inch, 2020. Downloaded from GeoHub (https://geohub-midlandcounty.hub.arcgis.com/).

The field methods used conform to the Routine Onsite Method of the 1987 U.S. Army Corps of Engineers' (USACE) Wetland Delineation Manual, as enhanced by the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (U.S. Army Corps of Engineers, 2012). Soil characteristics were examined by digging pits with a 16-inch tile spade, and in cases where thick A horizons were encountered, an Eijkelkamp Edelman soil auger for X:\1937800\210771.01\TECH\reports\WetlandDelineation\Report\PHN_Wetland Delineation.docx

combination soils with a 3-inch diameter by 6-inch-long barrel was employed to sample at depth. This soil auger was used to periodically test soils on both the upland and wetland sides of the boundary line. Soil pits were left open for a minimum of 15 minutes to adequately assess the water table. Munsell Soil Color charts were used to determine the hue, value, and chroma for the matrix and any redoximorphic features in each soil layer. Hydrologic indicators were visually assessed.

Vegetation was documented on Northcentral/Northeast Regional automated data forms provided by the USACE. Percent cover of each species in each stratum was estimated. The herbaceous stratum was sampled within a 5-foot radius plot, a 15-foot radius plot for the shrub/sapling stratum, and a 30-foot radius plot for the tree and woody vine stratum. The *2020 National Wetland Plant List* (USACE, 2020) was used to determine the wetland indicator status for each species, and the 50/20 rule was applied to determine dominance.

Antecedent precipitation was assessed using the Antecedent Precipitation Tool (APT) developed by the USACE in 2022. The APT compares precipitation data from multiple National Oceanic and Atmospheric Administration (NOAA) weather stations for three months prior to fieldwork to the 30-year normal range to determine if hydrologic conditions at the time of the delineation are normal, wetter, or drier than normal for the area.

A total of 60 data points—thirty (30) in uplands and thirty (30) in wetlands—were established to characterize the range of soil, vegetation, and hydrologic conditions. Wetland boundary points were indicated by wire pin flags placed approximately 25-50 feet apart. These sampling points and wetland boundary flags were surveyed with a Trimble DA2 GPS receiver capable of sub-meter accuracy and mapped using Geographic Information System (GIS) software.

Due to the nature of this clearing project, areas within each segment of the AOI that are regularly maintained in a grassland state and that do not contain obstructive vegetation identified for removal were not delineated. No project impacts are anticipated for these areas. Given the size of the combined AOI segments, this was done to focus work efforts on areas that would potentially experience project impacts.

Due to lack of entry permission for some parcels, not all areas on private property could be examined in the field. Private parcels at the Runway 22 end north of Smiths Creek Road and at the Runway 4 end were not accessible within the AOI. On those parcels where access permission was not provided, background data sources including one-foot contours, soils and NWI mapping, historic aerial photos, field conditions observed from accessible adjacent parcels or ROWs, and delineator experience were used to identify and estimate wetland boundaries on inaccessible parcels. See Appendix A for a Parcel Accessibility Map.

4. Results and Discussion

A. Site Description

(1) Airport History and Facilities

The airport in its current location began operations in the early 1950s after funds were appropriated in 1944 for the purchase of an initial area covering 785 acres. In 1950, funds were appropriated for development of runways and in 1951 an administration building was constructed. St. Clair County Airport became an international airport in 1954. Twenty-three years later the 80-acre Air Industrial Park was constructed in 1977. In 1994, the Instrument Landing System (ILS) was installed. Subsequent construction projects starting in 2015 added taxiways and rehabilitated Runway 4/22 (St. Clair County, 2024).

The Airport currently has two runways, Runway 4/22 and Runway 10/28, each with full parallel taxiways. Private hangars, general aviation terminal building, a FBO building, and maintenance facilities are available for users of the airport.

(2) Area of Interest Description

The AOI covers approximately 442.74 acres, split into two sections covering the runway approach surfaces on airport property and private lands. The Rwy 22 End AOI is the smaller of the two sections, covering 157.5 acres; the Rwy 4 End AOI covers 285.2 acres.

St. Clair County is situated within the Huron/Erie Lake Plains Ecoregion (EPA Level III Ecoregion: 57) and is split over two Level IV Ecoregions: the Saginaw Lake Plain Ecoregion (EPA Level IV Ecoregion: 57e) to the north of the City of Port Huron and the Maumee Lake Plain (EPA Level IV Ecoregion: 57a) to the south (US EPA, 2007). The St. Clair River flows to the south from Lake Huron to Lake St. Clair and forms the boundary between the United States and Canada. The Maumee Lake Plain Ecoregion extends from Port Huron along the St. Clair River and the Lake St. Clair and Lake Erie coastlines. Part of the Pleistocene Maumee glacial lake plain which encompassed the Lake Erie basin, the Maumee Lake Plain contains "clayey lake deposits, poorly drained fertile soils, and water-worked glacial till" (US EPA, 2007). The warmer temperatures of this region and its position to the west of Lake Erie results in little lake effect snow.

Well drained areas supported closed-canopy forests composed primarily of beech, sugar maple, hickory, and basswood; a mix of American elm, red ash, silver maple, and other deciduous swamp species occupied less well drained sites. Oak-hickory forest, oak savanna, or dry prairies inhabited sandier beach ridges. The wet prairies of the lake plain were dominated by grasses including bluejoint grass, prairie cordgrass, and big bluestem (US EPA, 2007) and yielded to lowland hardwoods (pin oak, silver maple, swamp white oak, black tupelo, and burr oak) with early settlement drainage practices that effectively lowered the water table.

Pre-settlement vegetation in the vicinity of the Rwy 4 End shows beech-sugar maple forest and patches of mixed hardwood swamp. The Rwy 22 End falls within a large area covered by mixed hardwood swamp (MNFI, 2024).

With European settlement of this area came clearing, ditching, and tiling of the coastal marshes, wet prairies, and depressional wetlands to grow a variety of crops in what became one of the most productive agricultural regions in the state.

Currently, surrounding land use varies from low-density residential along the Gratiot Ave and Pickford Road corridors to undeveloped lands adjacent to airport property. The 80-acre Michigan Certified Business Air Industrial Park sits just to the east of the airport and provides both aviation and non-aviation services. Airport property extends to the north of Smiths Creek Road and includes forested areas and several residences along the Allen Road corridor.

Three watersheds span airport property: Pine River (HUC12: 040900010306), Holland Drain-Pine River (HUC12: 040900010304), and Bunce Creek-Frontal Saint Clair River (HUC12: 040900010307). The nearly level topography within airport property has naturally undefined drainage. The gently rolling terrain occurs over an elevation range of less than 10 feet over most of the AOI. Drainage at the airport is accomplished by ditching. The Moak Drain, located between Gratiot Ave and airport property at the Runway 4 End, flows to the southwest. In this area, on-airport drainage generally flows south to this drain through a series of constructed ditches.

At the Rwy 22 End, drainage is more diffuse and less defined by constructed drainageways. Land within this AOI is marked by shallow pockets with poor internal drainage and slight rises, seasonally collecting runoff in the low areas. Vegetation within maintained areas remains in a grassland/wet prairie state while unmaintained land north of Smiths Creek Road shifts to a closed canopy forest. Drainage within the forested area is diffuse but generally flows to the east toward the St. Clair River.

The Runway 22 end is situated at somewhat higher elevations compared with lower areas to the south and west. Topography within the Rwy 22 End of the AOI is relatively flat with topographic highs around 650 feet (NAVD 1988), dipping to 641 ft in the northeast corner of the AOI. Topography within the Rwy 4 End varies between 640 feet at the end of the runway to 630 feet in lower areas. Topographic mapping from LiDAR Elevation Data for St. Clair County (2017) is provided in Appendix B.

(3) Soils Mapping

Soil unit boundaries within the AOI are highly complex units composed of two or more soil units mapped together as a single unit complex with many knolls and shallow depressions. Seasonal water tables range from one foot above the surface to two feet below in undrained conditions.

About 88.3% of the AOI is covered by soil units rated as partially hydric: Allendale-Hoytville complex, 0 to 6 percent slopes (AhB), Allendale-Latty complex, 0 to 3 percent slopes (AlA), Allendale-Lenawee-Toledo complex, 0 to 3 percent slopes (AtA), Latty complex, 0 to 3 percent slopes (LhA), and Wainola-Deford fine sands, 0 to 2 percent slopes (WdA). Soils from the first three complexes reflect the varied topography found within the project area: the higher knolls are dominated by the deep, somewhat poorly drained sandy soils of the Allendale series and the lower landscape positions within drainageways and depressions contain very poorly

drained clay loams (Hoytville), silty clays (Latty), silty clay loams (Lenawee), and silty clays (Toledo). All three of these complexes formed in either clayey glaciolacustrine sediments, clayey till, or lacustrine sediments.

Soils of the Wainola-Deford map unit, rated as partially hydric, consist of very deep, somewhat poorly drained fine sands formed in sandy glaciofluvial deposits on relatively flat landforms including outwash plains, lake plains, stream terraces, and deltas. The Latty complex covers the smallest percentage of the area mapped as partially hydric and similarly was formed in clayey glaciolacustrine sediments found on lake plains.

No soils within the project AOI are rated as predominantly hydric or hydric. Soils present within the AOI are summarized in Table 1. Soils mapping is presented in Appendix B.

TABLE 1. SUMMARY OF SOILS IN THE AOI

Map Unit Symbol	Map Unit Name	Percent of AOI	Primary Landform	Hydric Rating (percent)
			Knolls on till plains;	
	Allendale-Hoytville complex, 0		Depressions and	
AhB	to 6 percent slopes	30.60%	drainageways on till plains	Partially Hydric (45)
			Knolls on lake plains;	
	Allendale-Latty complex, 0 to 3		Drainageways and	
AIA	percent slopes	21.00%	depressions on lake plains	Partially Hydric (45)
			Knolls on lake plains;	
	Allendale-Lenawee-Toledo		Drainageways and	
AtA	complex, 0 to 3 percent slopes	15.90%	depressions on lake plains	Partially Hydric (55)
Вр	Borrow pits	0.60%		Non-hydric
			Flats on lake plains,	
	Latty complex, 0 to 3 percent		drainageways on lake plains;	
LhA	slopes	3.10%	Knolls on lake plains	Partially Hydric (46)
			Beaches on lake plains;	
			Swales on lake plains;	
	Rousseau fine sand, 0 to 6		Drainageways and	Predominantly Non-
RuB	percent slopes	10.00%	depressions on lake plains	hydric (22)
			Knolls on lake plains,	
	Rousseau fine sand, 6 to 12		drainageways, ridges on lake	
RuC	percent slopes	1.00%	plains, beaches	Non-hydric
			Beaches, outwash plains,	
			knolls on deltas; Depressions,	
	Wainola-Deford fine sands, 0		drainageways on deltas;	
WdA	to 2 percent slopes	17.70%	Ridges on deltas	Partially hydric (35)

(4) Aquatic Resources

Aquatic resources including mapped streams, drains, and water bodies, wetlands and Federal Emergency Management Agency (FEMA) floodplains are shown on the maps provided in Appendix C.

(a). Wetlands

Wetlands mapped on the National Wetland Inventory (NWI) relevant to the two sections of the AOI primarily consist of forested or emergent classes. The NWI in this area was updated in 2015; this mapping is assessed here due to its currentness. Seasonally flooded forested wetlands (PFO1C) predominate to the west of the airfield while several temporary flooded forested wetlands (PFO1A) are mapped at the northern extent of the Rwy 22 End AOI and on the south side of the Rwy 4 End AOI. A large seasonally flooded scrub-shrub/phragmites-dominated emergent wetland (PSS1/EM5C) is shown within the Rwy 4 End AOI on airport property outside of the perimeter fence.

Several ditches within the Rwy 4 End AOI are mapped as excavated low gradient semipermanently flooded unconsolidated bottom channels (R2UBFx). These all appear to drain southerly to the Moak Drain, also mapped as R2UBFx.

Within regularly maintained airfield areas in the project AOI, multiple seasonally flooded emergent (PEM1C) and phragmites-dominated seasonally flooded emergent (PEM5C) wetlands are mapped in the undulating topography. One large PEM5C wetland in the Rwy 4 End AOI also contains a permanently flooded freshwater pond in its central core mapped as PUBH.

(b). Streams

The AOI spans three watersheds: Pine River (HUC12: 040900010306), Holland Drain-Pine River (HUC12: 040900010304), and Bunce Creek-Frontal Saint Clair River (HUC12: 040900010307). The Airport is located between the Pine River on the west and the Saint Clair River on the east. The Airport is situated about 1.5 miles east of the Pine River. The Pine River flows southerly eventually reaching the Saint Clair River about 6.5 miles south of the Airport in the City of St. Clair. No named streams are within the project AOI.

Locally, two drains empty to the Pine River just outside of the AOI: the Moak Drain which flows southerly just south of airport property and the London Drain which flows just outside of the west side of the Airport.

Several ditches drain the southern half of the airfield to the Moak Drain in the Rwy 4 End AOI. Diffuse drainage through the Rwy 22 End AOI generally flows to the east through several ditches to Bunce Creek which empties to the Saint Clair River.

(c). Floodplains

An area of regulatory floodplain and 1% Annual Chance Flood Hazard (Zone AE) is mapped along the Pine River to the west and south of the Airport. No mapped floodplains are shown within the project AOI. A FEMA floodplain map is provided in Appendix C.

(5) Antecedent Climatic Conditions

The delineation was conducted over four site visits on August 16 - 23, 2022, October 3 - 7, 2022, June 6 - 14, 2023, and September 25 - October 4, 2023. The Antecedent Precipitation Tool (USACE, 2022) with a single point location was used to assess hydrologic conditions for the three

months prior to each field visit. Table 2 summarizes APT results and recorded precipitation for each of the site visits.

TABLE 2. SUMMARY OF CLIMATIC CONDITIONS FOR SITE VISITS

Site Visit Dates	Environmental Conditions	Recorded Precipitation During Site Visit
August 16 – 23, 2022	Normal Conditions (Dry Season)	~ 1 inch
October 3 – 7, 2022	Drier than Normal (Wet Season)	< 0.5 inch
June 6 – 14, 2023	Normal Conditions (Dry Season)	~1.7 inches
September 25 – October 4, 2023	Wetter than Normal (Dry Season)	~ 0.5 inches

Appendix D contains the results of the APT analysis and precipitation records for the Port Huron, Michigan station.

(6) Historic Aerial Photography Review

This photo review concentrates on documenting changes in vegetative cover within the two segments of the project AOI though the early history of Airport's development is also documented.

Historic aerial photographs for the AOI covering the years 1951, 1967, 1973, 1978, 1985, 1998, 2006, 2010, 2012, 2016, 2018, 2020, and 2022 are provided in Appendix E. Four early photographs dated 1951, 1967, 1973, and 1978 were obtained from the USGS EarthExplorer web site (USGS, 2024). One image (1985) was obtained from the Wayne State University Library Systems Digital Collections (Wayne State, 2024). Images from 1998 to 2020 were accessed from the State of Michigan Imagery service (2024) and the most recent image from 2022 is from the ESRI Imagery (ESRI, Inc., 2024) imagery service.

As seen in the 1951 photograph, the initial stages of construction at the airport are visible: the basic configuration of the two runways is in place and the terminal apron is constructed. Lands within both sections of the AOI appear largely undeveloped and consist of forested areas to the west and south of the airfield (Rwy 4 End AOI). Residential development is limited along Gratiot Ave and Smiths Creek Road. The Rwy 22 End AOI north of Smiths Creek Road shows some residences along the road but much of the area is cleared or sparsely wooded except for a forest patch along Allen Road.

By 1967, the initial length of Runway 4/22 was about 3,900 feet and Runway 10/28 was about 2,500 feet in length. This photo shows that areas within the airfield have been cleared of vegetation; the shallow hill and swale topography present over most of the airport is evident in this photo. Significant ditching is also visible in this photo, particularly within the Rwy 4 End AOI; the northern part of this AOI has been cleared of vegetation. Little change at the Rwy 22 End is seen as compared to the 1951 photograph.

Several land use changes can be seen in the 1973 photograph. Runway 4/22 has been extended to its current length of 5,104 feet and a parallel taxiway accompanies the extended runway. A new unpaved road provides access to instrument landing lights for Runway 4. Along with the

runway extension and new access road, land at the end of Runway 4 has been cleared west of a north-south drainage ditch up to presumably a new perimeter fence. Lands outside of this clearing are primarily forested. A pipeline corridor is visible in this photo, running from east-to-west through the southern portion of the AOI. At the Rwy 22 End, forest canopy closure is progressing north of Smiths Creek Road.

Starting in 1978, woody encroachment appears to proceed in previously cleared areas at the runways ends, followed by evidence of clearing activities visible in 1985. Further canopy closure outside of cleared areas is seen in the 1985 photograph. Again, in the 1998 photograph, the runway end areas have been cleared within the perimeter fence and are now mostly devoid of woody cover. In the Runway 4 End AOI, lands beyond the perimeter fence have been cleared, nearly up to the pipeline corridor. At the Rwy 22 End, forest canopy closure is continuing north of Smiths Creek Road.

As seen in the 2006 through the 2022 photographs, lands within the perimeter fence have largely been maintained in a grassland state at the Runway 22 End AOI and to a lesser degree at the Runway 4 end. The Runway 4 end has seen cycles of woody growth followed by clearing throughout these years. Generally, lands outside of the perimeter fence at the Runway 4 end have reverted to a mixed grassland/shrubby habitat directly adjacent to the fence and further to the southwest mature forest has developed over most of the Airport's property.

During these years, area north of Smiths Creek Road has seen canopy closure outside of residential properties along the road. As seen in the 2022 photo, a private parcel at the northern extent of the Runway 22 End AOI was cleared.

Table 3 summarizes major land use changes, especially as it relates to tree clearing activities, within the project AOI documented by historic aerial photographs.

TABLE 3. MAJOR LAND USE CHANGES WITHIN THE AOI

Photo Year	Land use change
1951	Initial construction of the airport consisting of two runways and associated facilities
1967	Original Runways 4/22 and 10/28 were completed, vegetation clearing at the runways ends
1973	Runway 4/22 extended to current length, parallel taxiway constructed, runway light access road, and clearing to the perimeter fence; east-west pipeline corridor present
1978 - 1998	Cycles of growth and vegetation clearing established within the perimeter fence; first clearing of area outside of perimeter fence at the Runway 4 end in 1998
2006 - 2022	Continued vegetation maintenance at both runway ends within the perimeter fence; canopy closure north of Smiths Creek Road; clearing of private parcel at northern extent of the Runway 22 End AOI

(7) Atypical Conditions Analysis

The runways and taxiways were first constructed in the early 1950s. Significant ditching has altered hydrology at the Airport, especially at the Runway 4 end. Ongoing vegetation maintenance activities have occurred since that time. Area within the Airport's perimeter fence is regularly mowed and has experienced some or all of the following disturbances:

- Grading, leveling, filling, mixing, transportation, and compaction of native soils.
- Changes to topography and drainage patterns.
- Regular mowing and periodic clearing of woody cover.
- Alteration of drainage patterns and hydrological function with drainage ditch construction.

Area within the perimeter fence of both sections of the AOI is regularly mowed and has likely seen some of the landscape alterations identified above. The area to the southwest of the perimeter fence in the Runway 4 End AOI has seen less regular vegetative alteration and has reverted to a relatively natural state. Alteration of drainage patterns and hydrological function is evidenced by numerous drainage ditches extending throughout this part of the AOI.

At the Runway 22 end, regular vegetative maintenance occurs within the perimeter fence; this area is permanently maintained in a grassland state. Lands north of Smith Creek Road have experienced little vegetation maintenance since initial European settlement. Subsequent regrowth and canopy closure has occurred. Some altered drainage patterns were observed as evidenced by one drainage swale in the northern section of the AOI.

Despite the regular vegetative maintenance, vegetation at the time of field visits did have enough regrowth to make identification reliable or nearby unmown areas were used as reference. Normal circumstances were considered to be present due to the relatively long period of time since initial construction of the runways and taxiways and absence of current landscape alterations.

(8) Accessibility

Access to all areas within both sections of the AOI was not possible. A parcel access map is provided in Appendix A and shows inaccessible parcels. Where possible, areas were visually examined from ROWs or from adjacent Airport-owned property.

B. Findings

(1) Wetlands

A total of thirty-six (36) wetlands were delineated within the project AOI. Wetlands consist of five types: Emergent (PEM), Scrub-shrub (PSS), Forested (PFO), Shallow Marsh (PUB), and Excavated Ditch (RUBx) which are discussed below. The wetland boundary was highly reticulated and interconnected, with several large wetland complexes, the largest of which covers over 30 acres. In contrast, a number of wetlands occurred in small isolated depressions. Delineated wetlands are summarized in Table 4.

Due to the inaccessibility of some parcels within the project AOI, area on private property could not be field assessed. Therefore, nine (9) wetlands were estimated based on desktop data sources. Data sources included one-foot contours, soils, NWI mapping, and historic aerial photos. Additionally, field conditions observed from accessible adjacent parcels or ROWs and delineator experience supplemented the mapping of these wetlands. Estimated wetlands consist of the same five types as above (PEM, PSS, PFO, PUBHx, and RUBx) and generally are extensions to delineated wetlands. Two excavated ponds (PUBHx) were mapped based on NWI data. Estimated wetlands are summarized in Table 5.

Wetland boundary maps with sampling point locations and field photograph locations are presented in Appendix F followed by data sheets and field photographs in Appendices G and H, respectively. On wetland maps, estimated extensions to delineated wetlands and other estimated wetlands are labeled with an "X" and labels are shown in yellow. Delineated wetland labels are shown in white. Wetlands, including both delineated and estimated, are described in more detail in Appendix I.

TABLE 4. SUMMARY OF DELINEATED WETLANDS WITHIN THE AOI

Wetland ID	Cowardin Class	Dominant Vegetation	Total Area within AOI (sq. ft.)	Total Area within AOI (acres)
1	PEM	Cornus amomum (FACW), Carex pellita (OBL), Carex flava (OBL), Salix petiolaris (FACW), Carex pellita (OBL)	42,401.74	0.973
2	PEM	Onoclea sensibilis (FACW), Carex pellita (OBL)	982.62	0.023
3	PEM	Phragmites australis (FACW), Onoclea sensibilis (FACW), Athyrium angustum (FAC)	34,956.71	0.802
4	PEM	Phragmites australis (FACW)	13,955.26	0.320
5	PEM	Fraxinus pennsylvanica (FACW), Cornus racemosa (FAC), Carex lupulina (OBL), Carex pellita (OBL)	9,529.60	0.219
6	PEM	Phragmites australis (FACW)	19,502.24	0.448
7	RUBx/ PEM/PFO	Alnus incana (FACW), Frangula alnus (FAC), Cladium mariscoides (OBL), Juncus dudleyi (FACW), Solidago rugosa (FAC), Vitis riparia (FAC), Acer rubrum (FAC), Betula papyrifera (FACU), Cephalanthus occidentalis (OBL), Phragmites australis (FACW), Phalaris arundinacea (FACW)	110,073.26	2.527
8	RUBx/ PEM/PSS/ PUB	Acer rubrum (FAC), Cephalanthus occidentalis (OBL), Frangula alnus (FAC), Phragmites australis (FACW)	51,214.33	1.176
9	PFO	Acer rubrum (FAC), Ulmus americana (FACW), Frangula alnus (FAC), Carex cristatella (FACW)	78,377.92	1.799

Wetland ID	Cowardin Class	Dominant Vegetation	Total Area within AOI (sq. ft.)	Total Area within AOI (acres)
10	PFO	Acer rubrum (FAC), Ulmus americana (FACW), Fraxinus pennsylvanica (FACW), Quercus bicolor (FACW), Carex cristatella (FACW), Glyceria striata (OBL), Acer rubrum (FAC), Tilia americana (FACU), Fraxinus pennsylvanica (FACW), Carpinus caroliniana (FAC), Ribes cynosbati (FACU), Doellingeria umbellata (FACW), Fragaria virginiana (FACU), Acer rubrum (FAC), Populus deltoides (FAC), Fraxinus pennsylvanica (FACW), Glyceria striata (OBL), Carex vulpinoidea (OBL)	501,248.17	11.507
11	PFO	Fraxinus pennsylvanica (FACW), Ulmus americana (FACW), Quercus bicolor (FACW)	6,286.92	0.144
12	PFO	Ulmus americana (FACW), Glyceria striata (OBL)	8,181.24	0.188
13	PFO	Fraxinus pennsylvanica (FACW), Glyceria striata (OBL)	15,375.50	0.353
14	PSS	Cornus racemosa (FAC), C. alba (FACW), C. amonum (FAC)	10,159.61	0.233
15	PEM	Phalaris arundinacea (FACW), Fraxinus pennsylvanica (FACW), Phragmites australis (FACW), Symphyotrichum lanceolatum (FACW), Symphyotrichum novae-angliae (FACW)	7,328.17	0.168
16	PEM	Phalaris arundinacea (FACW), Phragmites australis (FACW), Symphyotrichum lanceolatum (FACW)	3,688.89	0.085
17	PEM	Phragmites australis (FACW)	8,612.47	0.198
18	PUB, PEM, PFO, PSS	Phalaris arundinacea (FACW), Athyrium angustum (FAC), Dichanthelium clandestinum (FACW), Phragmites australis (FACW), Phalaris arundinacea (FACW), Phragmites australis (FACW), Cladium mariscoides (OBL), Phalaris arundinacea (FACW), Populus tremuloides (FAC), Alnus incana (FACW), Onoclea sensibilis (FACW), Solidago rugosa (FAC), Pteridium aquilinum (FACU), Cornus alba (FACW), Carex pellita (OBL), Populus deltoides (FAC), Fraxinus pennsylvanica (FACW), Cornus racemosa (FAC), Cephalanthus occidentalis (OBL), Salix interior (FACW), Poa pratensis (FACU), Solidago gigantea (FACW), S. canadensis (FACU), Populus deltoides (FAC), Salix discolor (FACW), Phragmites australis (FACW), Poa palustris (FACW), Equisetum hyemale (FAC), Carpinus caroliniana (FAC), Fraxinus pennsylvanica (FACW), Calamagrostis canadensis (OBL), Symphyotrichum lanceolatum (FACW), Ranunculus hispidus (FAC)	1,322,135.38	30.352
19	PFO	Quercus bicolor (FACW), Fraxinus pennsylvanica (FACW), Populus deltoides (FAC), Acer saccharinum (FACW) Acer saccharinum (FACW), Populus deltoides	31,787.12	0.730
20	PFO	(FAC), Quercus bicolor (FACW), Fraxinus pennsylvanica (FACW), Onoclea sensibilis (FACW)	7,938.28	0.182

Wetland ID	Cowardin Class	Dominant Vegetation	Total Area within AOI (sq. ft.)	Total Area within AOI (acres)
21	PFO	Populus deltoides (FAC), Fraxinus pennsylvanica (FACW), Carex intumescens (FACW), Symphyotrichum lateriflorum (FAC), Phragmites australis (FACW)	21,085.17	0.484
22	PFO	Acer saccharinum (FACW), A. rubrum (FAC), Ulmus americana (FAC), Quercus bicolor (FACW), Fraxinus pennsylvanica (FACW)	16,719.29	0.384
23	PEM/PFO	Acer rubrum (FAC), Quercus rubra (FACU), Fraxinus pennsylvanica (FACW)	97,971.19	2.249
25	PEM/PFO/ RUBx	Carpinus caroliniana (FAC), Acer rubrum (FAC), Quercus rubra (FACU), Hamamelis virginiana (FACU), Osmundastrum cinnamomeum (FACW), Fraxinus pennsylvanica (FACW), Thelypteris palustris (FACW)	129,626.41	2.976
26	PFO	Acer rubrum (FAC), Fraxinus pennsylvanica (FACW), Ulmus americana (FACW)	2,199.36	0.050
27	PFO	Fraxinus pennsylvanica (FACW), Acer rubrum (FAC), Osmunda spectabilis (OBL), Carex crinita (OBL)	22,577.58	0.518
28	PFO	Acer rubrum (FAC), Ulmus americana (FACW), Osmunda spectabilis (OBL)	2,085.02	0.048
29	PFO	Acer rubrum (FAC), Quercus bicolor (FACW), Fraxinus pennsylvanica (FACW)	8,832.76	0.203
30	PFO/PSS/ PEM	Acer rubrum (FAC), Populus deltoides, Iris virginica (OBL), Acer rubrum (FAC), Carpinus caroliniana (FAC), Hamamelis virginiana (FACU), Osmundastrum cinnamoneum (FACW), Populus tremuloides (FAC), Salix nigra (OBL), Poa pratensis (FACU), Doellingeria umbellata (FACW), Vitis riparia (FAC)	405,401.58	9.307
31	PFO	Acer rubrum (FAC), Prunus serotina (FACU), Fraxinus pennsylvanica (FACW), Solidago rugosa (FAC), Doellingeria umbellata (FACW)	43,582.57	1.001
32	PFO/PSS	Populus deltoides (FAC), Salix nigra (OBL), S. discolor (FACW), Equisetum pratense (FACW), Onoclea sensibilis (FACW), Phragmites australis (FACW), Doellingeria umbellata (FACW), Pteridium aquilinum (FACU)	93,859.57	2.155
33	PFO	Acer rubrum (FAC), Carex crinita (OBL), C. lupulina (OBL), Fraxinus pennsylvanica (FACW)	49,360.00	1.133
35	PFO/PEM	Acer rubrum (FAC), Prunus serotina (FACU), Hamamelis virginiana (FACU), Glyceria striata (OBL), Onoclea sensibilis (FACW), Carex intumescens (FACW)	97,394.04	2.236
36	PFO	Acer rubrum (FAC), Carpinus caroliniana (FAC), Osmunda spectibilis (OBL)	20,438.94	0.469
37	RUBX	Acer rubrum (FAC), Fraxinus pennsylvanica (FACW), Solidago rugosa (FAC), Doellingeria umbellata (FACW)	4,084.98	0.094
38	PFO	Acer rubrum (FAC), Glyceria striata (OBL), Carex radiata (FAC)	6,598.98	0.151
		Total Delineated	3,305,550.60	75.885

(a). Delineated Wetlands

As noted above, wetlands consist of five classes: Emergent (PEM), Scrub-shrub (PSS), Forested (PFO), Shallow Marsh (PUB), and Excavated Ditch (RUBx). These classes are discussed further below.

Emergent (PEM)

Emergent wetlands are concentrated in the regularly maintained portions of the project AOI. Wetlands 1 - 6, 15, 16 and 10B are located in the Rwy 22 End AOI. Wetlands 1 - 6 were within the regularly maintained area on the airfield, while Wetlands 15, 16, and 10B are ditch wetlands along Allen Road.

Emergent wetlands within the maintained area of Rwy 4 End AOI (Wetlands 7B, 8C, 17, 18A – C, 18J, 18M – O, and 23A), are emergent components of larger wetland complexes, including areas maintained along the pipeline corridor (Wetlands 25C, 18R, 35C, and 35D). Regular vegetation maintenance keeps these areas in a grassland/wet meadow plant community. In addition, Wetland 18 contains one large phragmites stand (Wetland 18P).

Vegetation within these emergent wetlands is dominated by graminoids with shrubs present in an arrested state due to regular mowing. Wetland sampling points DP1, 3, 5, and 7, taken in Wetlands 1, 5, and 6 within the Rwy 22 End AOI, contain a mix of graminoids including *Carex pellita* (woolly sedge: OBL), *Carex flava* (yellow-green sedge: OBL), *Phragmites australis* (common reed: *FACW*), *Carex lupulina* (hop sedge: OBL), and *Cladium mariscoides* (smooth saw-grass: OBL) along with a mix of shrubs including *Salix petiolaris* (meadow willow: FACW), *Cornus amomum* (silky dogwood: FACW), and *C. racemosa* (gray dogwood: FAC). *Onoclea sensibilis* (sensitive fern: FACW), *Athyrium angustum* (northern lady fern: FAC), and *Equisetum hyemale* (tall scouring-rush: FAC) comprised an abundant fern component and dominant forbs present included *Iris virginica* (Virginia blue-flag: OBL) and *Prunella vulgaris* (selfheal: FAC).

Within the Rwy 4 End AOI at Wetland sampling points DP21, 25, 27, and 33 (taken in Wetlands 7B, 18C, 18J, and 18O), the plant community was at times represented by elements of the tree and shrub strata as part of larger wetland complexes. Mowing operations limited to the edges of these larger complexes maintains portions of the complexes in emergent vegetation while woody growth over time in hard-to-maintain areas has advanced. Mowing operations are primarily limited by the amount of standing water present during the growing season in this part of the project AOI.

Dominant emergent vegetation at these wetland sampling points included common reed, *Phalaris arundinacea* (reed canary grass: FACW), smooth saw-grass, and wooly sedge. Other non-dominant species included *Typha angustifolia* (cattail: OBL), Virginia blue-flag, and northern lady fern.

Two larger wetland complexes extended into regularly maintained areas inside the fence and transitioned to emergent vegetation: Wetland 18N and Wetland 23A. No sampling points were taken in these wetlands. Wetland 18N is dominated by woolly sedge and common reed. Wetland 23A contains a wet meadow plant community consisting of common reed, woolly sedge, Virginia blueflag, *Persicaria sp.* (smartweeds), and *Symphyotrichum novae-angliae* (New England aster: FACW).

Scrub-shrub (PSS)

Present within both sections of the project AOI, scrub-shrub wetlands were dominated by willows and dogwoods, or saplings of various tree species. Wetlands 8B, 18D, 18I, 30C, 30D, and 32B are scrub-shrub dominated wetlands within the Rwy 4 End AOI and Wetland 14 is located in the Rwy 22 End AOI.

Wetland sampling points DP29, DP47, and DP49 document the scrub-shrub component of a large complex covering area both inside and outside of the perimeter fence. Wetland sampling point DP29 documents Wetland 18D. Wetland 18D, located inside of the perimeter fence as a fringe plant community in a somewhat higher landscape position in association with a large shallow marsh, is dominated by *Populus tremuloides* (quaking aspen: FAC) in the tree stratum and *Alnus incana* (speckled alder: FACW) in the shrub stratum. Other species in the shrub stratum included *Frangula alnus* (glossy buckthorn: FAC) and shoots of *Fraxinus pennsylvanica* (green ash: FACW). Dominant understory species included sensitive fern, *Solidago rugosa* (wrinkle-leaf goldenrod: FAC), and *Pteridium aguilinum* (bracken fern: FACU).

Wetland sampling points DP47 and DP49 document Wetland 18I, a large scrub-shrub complex stretching over 9.6 acres in size within the Rwy 4 End AOI. Wetland 18I is emblematic of the glacial lakeplain topography underlying the project AOI marked by shallow depressional pockets and slight rises, seasonally collecting runoff in the low areas. Some parts of this wetland have been hydrologically altered by ditching that drains on-airfield areas and are connected by culverts under two-track access roads located on sandier rises.

Dominant shrub species in Wetland 18I include young *Populus deltoides* (cottonwood: FAC) and green ash in the tree stratum and gray dogwood, *Cephalanthus occidentalis* (buttonbush: OBL), *Salix interior* (sandbar willow: FACW), and *Salix discolor* (pussy willow: FACW) in the shrub stratum. Speckled alder was also present in large stands in other areas of Wetland 18I.

Wetland 30C, located at a somewhat lower landscape position within Wetland 30A, and Wetland 30D both are covered by a mix of quaking aspen, *Salix nigra* (black willow: OBL), gray dogwood, and speckled alder. Similarly, Wetland 32B is covered by a shrubby mix of young cottonwood, black willow, and pussy willow.

Wetland 14, located just south of Smiths Creek Road within the Rwy 22 End AOI, is a small depressional area dominated by gray dogwood, red osier, and silky dogwood.

Forested (PFO)

Forested wetlands are delineated throughout the project AOI and in total cover approximately 35.5 acres of the AOI. Wetlands 9, 10A, 11, 12, and 13 are situated within the Rwy 22 End AOI north of Smiths Creek Road. These wetlands are documented by wetland sampling points DP9, DP11, DP13, and DP15. A mature mix of *Acer rubrum* (red maple: FAC), *Ulmus americana* (American elm: FACW), green ash, *Quercus bicolor* (swamp white oak: FACW), *Tilia americana* (basswood: FACU), *Carpinus caroliniana* (American hornbeam: FAC), and cottonwood (FAC) was present within these wetlands on topography marked by shallow depressional areas and slight rises.

Dominant understory species included *Carex cristatella* (crested sedge: FACW), *Carex vulpinoidea* X:\1937800\210771.01\TECH\reports\WetlandDelineation\Report\PHN_Wetland Delineation.docx

(fox sedge: OBL), *Glyceria striata* (fowl manna grass: OBL), *Ribes cynosbati* (Eastern Prickly Gooseberry: FACU), *Doellingeria umbellata* (flat-topped white aster: FACW), and *Fragaria virginiana* (wild strawberry: FACU).

Extensive hardwood forest areas are also present in the Rwy 4 End AOI. Wetlands 7, 18Q, 18S, 19 through 36 and 38 are either forested or have a forested component. Ten wetland sampling points document these wetlands: DPs 31, 35, 37, 39, 41, 43, 51, 53, 55, and 59. Red maple is a prominent component of all of these wetlands along with *Acer saccharinum* (silver maple: FACW), green ash, cottonwood, swamp white oak, American hornbeam, quaking aspen, black willow, and *Quercus rubra* (red oak: FACU). American elm is a minor component of the tree stratum in many of these wetlands.

The shrub layer is often limited to saplings of the dominant trees at most wetland sampling points or absent altogether. The herbaceous layer is dominated by *Carex intumescens* (bladder sedge: FACW), *Symphyotrichum lateriflorum* (Farewell-summer: FAC), common reed, sensitive fern, *Carex crinita* (fringed sedge: OBL), hop sedge, *Osmundastrum cinnamomeum* (cinnamon fern: FACW), flat-topped white aster, fowl manna grass, wrinkle-leaf goldenrod, *Calamagrostis canadensis* (bluejoint: OBL), *Symphyotrichum lanceolatum* (white panicled American-Aster: FACW), *Ranunculus hispidus* (bristly buttercup: FAC), and *Thelypteris palustris* (eastern marsh fern: FACW).

Shallow Marsh (PUB)

Two wetlands contain areas of shallow marsh: Wetlands 8A and 18E. Wetland sampling point DP17 taken in Wetland 8A shows an herb stratum completely dominated by common reed, a shrub layer dominated by buttonbush and glossy buckthorn, and a fringe of red maple on the depression's side slopes with the AOI boundary. At the time of the field visit in October 2022 under drier than normal climatic conditions, a water table was not found.

The far larger shallow marsh in Wetland 18E is dominated by common reed and at multiple field visits under varying climatic conditions consistently contained standing water.

Excavated Ditch (RUBx)

Several constructed ditches were delineated as components of larger wetland complexes: Wetlands 7C, 8D, and 25F. Wetland 37 is the southern end of a constructed ditch that drains along the western edge of airport property in the Rwy 4 End AOI.

Wetland sampling point DP19 taken within Wetland 7C is indicative of the ditches within the airfield. At the time of the field visit, climatic conditions were drier than normal and standing water was observed throughout this portion of a larger ditch that drains the western side of the airport and carries flows southward to the Moak Drain. The ditch was fully vegetated with a diverse herbaceous stratum dominated by smooth saw-grass, wrinkle-leaf goldenrod, and *Juncus dudleyi* (Dudley's Rush: FACW) and shrub stratum dominated by speckled alder and glossy buckthorn.

Wetland 25F is a portion of the Moak Drain within the Rwy 4 End AOI. This portion of the steep-sided drain is 8 – 10 feet deep and 10 – 15 feet wide. Near its passage under Gratiot Ave, the ditch X:\1937800\210771.01\TECH\reports\WetlandDelineation\Report\PHN_Wetland Delineation.docx

also receives drainage flows from the north via Wetland 25D and from the west through Wetland 25E. Wetland 27 is connected to Wetland 25E via a culvert under a two-track access road.

(b). Estimated Wetlands

On private parcels within the project AOI segments that were inaccessible at the time of field work, wetland areas were estimated. Nine (9) wetlands were estimated based on desktop data sources and/or on field conditions observed from accessible adjacent parcels or ROWs. Data sources included one-foot contours, soils and NWI mapping, and historic aerial photos. Additionally, delineator experience supplemented the mapping of these wetlands.

Estimated wetlands consist of the same five classes as above (PEM, PSS, PFO, PUBHx, and RUBx) and generally are extensions to delineated wetlands. It is assumed that similar plant communities will be present in estimated wetlands that have been extended from delineated wetlands. Examination of aerial photos provides evidence of assigned wetland classes. Two excavated ponds (PUBHx) were mapped based on NWI data: Wetlands 13(X)C and 34(X). Estimated wetlands are summarized in Table 5.

TABLE 5. SUMMARY OF ESTIMATED WETLANDS WITHIN THE AOI

Wetland ID	Cowardin Class	Total Area within AOI (sq. ft.)	Total Area within AOI (acres)
9(X)	PFO	108,420.84	2.489
13(X)	PFO/PUBHx	301,086.72	6.912
24(X)	RUBx	18,948.60	0.435
25F(X)	RUBx	2,178.00	0.050
30(X)	PEM/PSS/PFO	779,114.16	17.886
34(X)	PUBHx	6,577.56	0.151
35(X)	PEM/PFO	48,177.36	1.106
36(X)	PFO	17,162.64	0.394
37(X)	RUBx	10,454.40	0.240
	Total Estimated	1,292,120.28	29.664

(c). Wetland Hydrology

During the first field visit (August 16 - 23, 2022), climatic conditions were within normal range and about an inch of rain was recorded while on site. Wetland sampling points taken during this field visit all satisfied the wetland hydrology criterion with observation of Geomorphic Position (D2) and positive FAC-Neutral Test (D5). A combination of primary hydrology indicators including Water Marks (B1), Sparsely Vegetated Concave Surface (B8), and/or Water-Stained Leaves (B9) were observed in forested areas north of Smiths Creek Road along with Moss Trim Lines (B16), a secondary hydrology indicator. Crayfish Burrows (C8), a secondary hydrology indicator, was observed at all of the sampling points taken in the mowed area within the Rwy 22 End AOI (Wetlands 1, 5 and 6).

Sampling points taken during the second site visit (October 3 – 7, 2022) under drier than normal climatic conditions and little rain during the field visit primarily satisfied the wetland hydrology criterion with observation of Geomorphic Position (D2) and positive FAC-Neutral Test (D5). Flowing water was found in the ditch portion of Wetland 7 and satisfied primary indicators Surface Water (A1), High Water Table (A2), and Saturation (A3).

Crayfish Burrows (C8) were also observed in low areas in mowed infield areas in the Rwy 4 End AOI (Wetlands 18J and 18O). In woody areas (Wetlands 18D and 23B) primary hydrology indicators Water Marks (B1), Sparsely Vegetated Concave Surface (B8), and Water-Stained Leaves (B9) were also observed.

Approximately 1.7 inches of precipitation was recorded during the June 6 –14, 2023 visit under normal climatic conditions. Under these conditions, the presence of wetland hydrology was directly observed as Saturation (A3) supported by a Dry-Season Water Table (C2). Again, secondary indicators Geomorphic Position (D2) and positive FAC-Neutral Test (D5) were satisfied at all sampling points taken during this field visit.

Finally, on the last field visit (September 25 – October 4, 2023) under wetter than normal climatic conditions and little recorded precipitation (~ 0.5 inches) during the site visit, the wetland hydrology criterion was satisfied by direct observation of High Water Table (A2) and Saturation (A3) at all sampling points taken. Additionally, secondary hydrology indicators Geomorphic Position (D2) and positive FAC-Neutral Test (D5) were satisfied at all sampling points taken during this field visit. In wooded areas, primary indicator Water-Stained Leaves (B9) was satisfied in Wetlands 35B and 18Q.

In summary, over multiple field visits to this site, wetland hydrology was either directly observed or indicated. Wetland hydrology is supported by a generally high water table on poorly drained soils in low areas within an undulating lakeplain landscape. Significant ditching on airport property has not consistently lowered the water table; vegetation maintenance operations requiring dry soil conditions can sometimes only be done during late fall and winter in some areas at the airport and results in less frequent mowing than desired.

(d). Hydric Soils

Hydric soil indicators Depleted Below Dark Surface (A11) and Depleted Matrix (F3) were satisfied quite often together or sometimes individually throughout the project AOI. The Sandy Redox (S5) and High Chroma Sands (S11) indicators were often met in combination on soils from the Wainola-Deford fine sands map unit.

In sampled forested areas (Wetlands 18Q, 25A, 30A, 30B, 31, 33, and 35B) the hydric soil criterion often was satisfied by the Sandy Mucky Mineral (S1) and Dark Surface (S7) indicators on soils mapped from the partially hydric Allendale-Latty complex (0 to 3 percent slopes). Texture was determined in the field using guidance provided in the regional supplement (USACE, 2012).

(2) Streams/Ditches

Table 6 presents a summary of both delineated and estimated streams within the project AOI. Wetland ditches 15 and 16 north of Smiths Creek Road are roadside ditches along Allen Road and are not included in this summary.

The streams below are steep-sided excavated ditches that convey drainage from airport property ultimately to the Moak Drain or are parts of the Moak Drain itself. Slow flowing water was found in these ditches at multiple site visits. Wetland 37(X) was observable from airport property and was approximately 10 - 15 feet wide with water to an unknown depth, likely more than two feet deep.

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Wetland ID	Comment	Cowardin Class	Total Length within AOI (linear ft)	
7C	Delineated	RUBx	1,747.78	
8D	Delineated	RUBx	535.58	
24(X)	Estimated	RUBx	1,374.13	
25F(X)	Estimated; Moak Drain	RUBx	133.39	
25F	Delineated; Moak Drain	RUBx	1,062.03	
37	Delineated	RUBx	273.73	
37(X)	Estimated	RUBx	1,036.00	
	Total		6,162.64	

TABLE 6. SUMMARY OF STREAMS/DITCHES IN THE AOI

(3) Uplands

Uplands within the AOI consist of a mixture of managed areas and undeveloped lands. Managed areas are covered by a mixture of native graminoids and common forbs. Undeveloped lands consist of several large areas of moist woods and unmaintained grasslands.

Dominant herbaceous vegetation found at upland sampling points within the AOI included fescues, Kentucky and flat-stem blue grasses, little blue stem, goldenrods, wild strawberry, bracken fern, Eastern teaberry, and Queen Anne's-Lace. Honeysuckle, glossy buckthorn, and autumn olive were found in the shrub layer while the tree stratum was dominated by black cherry, red maple, paper birch, white pine, witch-hazel, American hornbeam, both quaking and big tooth aspens, and red oak. Woody vines were absent at most upland sampling points except north of Smiths Creek Road where Oriental bittersweet was found in abundance.

Transition to uplands was marked by topographic changes of as little as one to two feet along shallow depressional basins or more abrupt topographic changes along steep ditch profiles. A lack of wetland hydrology indicators and/or an absence of hydric soil indicators also contributed to the wetland-upland boundary determination as hydrophytic vegetation often crossed the boundary in moist forested areas. Table 7 lists the dominant species found at upland sampling points and others observed in uplands while on site.

TABLE 7. UPLAND SPECIES OBSERVED WITHIN THE AOI

Scientific Name and Indicator	Common Name	Habit
Dominant Species at Sampling points		
Pteridium aquilinum (FACU)	Bracken fern	fern
Aralia nudicaulis (FACU)	Wild sarsaparilla	forb
Circaea canadensis (FACU)	Enchanter's nightshade	forb
Daucus carota (UPL)	Queen Anne's-Lace	forb
Euthamia graminifolia (FAC)	Flat-Top goldenrod	forb
Fragaria virginiana (FACU)	Wild strawberry	forb
Gaultheria procumbens (FACU)	Eastern teaberry	forb
Hydrophyllum virginianum (FAC)	Shawnee-Salad (Virginia waterleaf)	forb
Maianthemum canadense (FACU)	False Lily-of-the-Valley	forb
Medeola virginiana (FACU)	Indian cucumber-root	forb
Solidago rugosa (FAC)	Wrinkle-Leaf goldenrod	forb
Solidago speciosa (UPL)	Showy goldenrod	forb
Symphyotrichum ericoides (FACU)	White Heath American-Aster	forb
Festuca rubra (FACU)	Red fescue	graminoid
Poa compressa (FACU)	Flat-Stem blue grass	graminoid
Poa pratensis (FACU)	Kentucky blue grass	graminoid
Cornus racemosa (FAC)	Gray dogwood	shrub
Elaeagnus umbellata (UPL)	Autumn olive	shrub
Frangula alnus (FAC)	Glossy buckthorn	shrub
Lonicera x bella (FACU)	Japanese honeysuckle	shrub
Ribes cynosbati (FACU)	Eastern Prickly Gooseberry	shrub
Rosa multiflora (FACU)	Multiflora rose	shrub
Viburnum lentago (FAC)	Nanny-Berry	shrub
Acer rubrum (FAC)	Red maple	tree
Betula papyrifera (FACU)	Paper birch	tree
Carpinus caroliniana (FAC)	American Hornbeam	tree
Hamamelis virginiana (FACU)	American Witch-Hazel	tree
Pinus strobus (FACU)	White pine	tree
Pinus sylvestris (UPL)	Scotch pine	tree
Populus grandidentata (FACU)	Big tooth aspen	tree
Populus tremuloides (FAC)	Quaking aspen	tree
Prunus pensylvanica (FACU)	Fire Cherry	tree
Prunus serotina (FACU)	Black cherry	tree
Quercus rubra (FACU)	Red Oak	tree
Sassafras albidum (FACU)	Sassafras	tree
Tilia americana (FACU)	Basswood/Linden	
Celastrus orbiculatus (FACU)	Oriental bittersweet	tree
Parthenocissus quinquefolia (FACU)	Virginia-Creeper	vine
i artiieriooloodo quiriquerolla (FACU)	viigiiiia-Oreepei	VIIIG
Non-dominant Species at Sampling Poin	ts and field observed	
Equisetum hyemale (FAC)	Tall Scouring-Rush	fern
Achillea millefolium (FACU)	Common yarrow	forb
Aletris farinosa (FAC)	White Colicroot	forb
Asclepias syriaca (UPL)	Common milkweed	forb
nsulchias syllaca (UFL)	Common milkweed	טוטו

Scientific Name and Indicator	Common Name	Habit
Centaurea stoebe (UPL)	Spotted knapweed	forb
Cirsium arvense (FACU)	Canadian thistle	forb
Crepis tectorum (UPL)	Hawk's beard	forb
Eurybia macrophylla (FAC)	Large-Leaf Wood-Aster	forb
Leucanthemum vulgare (FACU)	Ox-Eye Daisy	forb
Lotus corniculatus (FACU)	Bird's foot trefoil	forb
Nabalus albus (FACU)	White Rattlesnake-Root	forb
Oxalis stricta (FACU)	Yellow Wood-Sorrel	forb
Pedicularis canadensis (FACU)	Common lousewort	forb
Persicaria virginiana (FAC)	Jumpseed	forb
Plantago lanceolata (FACU)	English Plantain	forb
Potentilla simplex (FACU)	Oldfield Cinquefoil	forb
Rudbeckia hirta (FACU)	Black-Eyed-Susan	forb
Solidago canadensis (FACU)	Canada goldenrod	forb
Taraxacum officinale (FACU)	Dandelion	forb
Trifolium pratense (FACU)	Red clover	forb
Dichanthelium latifolium (FACU)	Broad-Leaf rosette grass	graminoid
Elymus hystrix (FACU)	Eastern Bottle-brush grass	graminoid
Festuca trachyphylla (UPL)	Sheep fescue	graminoid
Schizachyrium scoparium (FACU)	Little bluestem	graminoid
Actaea rubra (FACU)	Red baneberry	shrub
Berberis thunbergii (FACU)	Japanese Barberry	shrub
Hypericum prolificum (FACU)	Shrubby St. John's-Wort	shrub
Rubus occidentalis (UPL)	Black raspberry	shrub
Pinus resinosa (FACU)	Red pine	tree

(4) Invasive species

A number of invasive plants were observed in both wetlands and uplands. Two restricted species found in wetlands were *Lythrum salicaria* (purple loosestrife) and common reed. Large patches of common reed were seen throughout the project AOI in non-forested locales. Reed canary grass was also present.

Glossy buckthorn was abundant in the Rwy 22 End AOI along with *Celastrus orbiculatus* (Oriental bittersweet) and *Rosa multiflora* (Multiflora rose). Multiflora rose was found sporadically in this AOI. None of these species are regulated.

Upland invasive species included *Elaeagnus umbellata* (Autumn olive), *Berberis thunbergii* (Japanese barberry), Oriental bittersweet, and *Centaurea stoebe* (spotted knapweed). Autumn olive is restricted in Michigan while the other species are not currently regulated in Michigan.

(5) Wildlife observed

During site visits, the following wildlife were directly observed or noted by other indications such as scat or calls.

- Great blue heron (Ardea herodias)
- Killdeer (Charadrius vociferus)
- Purple martin (*Progne subis*)
- Hawks (Buteo sp.)
- Red-winged blackbird (Agelaius phoeniceus)
- Turkey vulture (Cathartes aura)
- American woodcock (Scolopax minor)
- Northern flicker (Colaptes auratus)
- Crow (Corvus brachyrhynchos)
- House sparrow (Passer domesticus)
- Canada goose (Branta canadensis)
- Turkey (Meleagris gallopavo)
- White-tailed deer (Odocoileus virginianus)
- Painted turtle (Chrysemys picta)
- Garter snake (Thamnophis sirtalis sirtali)
- Pickerel frog (Lithobates palustris)
- Spring peeper (Pseudacris crucifer)
- Monarch butterfly (Danaus plexippus)
- Bumblebee (Bombus sp.)

(6) Summary

In summary, thirty-six (36) separate wetland boundaries were delineated within the AOI on airport property and are documented by sixty (60) sampling points. Five wetland classes are represented: Emergent (PEM), Scrub-shrub (PSS), Forested (PFO), Shallow Marsh (PUB), and Excavated Ditch (RUBx). Several large multi-class wetland complexes were delineated ranging in size from a little over an acre to more than 30 acres. Of these thirty-six wetlands, four (4) streams/excavated ditches were delineated on airport property as part of larger wetland complexes.

Due to the inaccessibility of private parcels within the project AOI, areas on private property could not be field assessed on foot. Therefore, nine (9) wetlands were estimated based on desktop data sources. Estimated wetlands consist of the same five classes as above (PEM, PSS, PFO, PUBHx, and RUBx) and generally are extensions to delineated wetlands. Two excavated ponds (PUBHx) were mapped based on NWI data. Within these nine estimated wetlands, three (3) streams were estimated using multiple desktop data sources.

About 88.3% of the AOI is covered by soil units rated as partially hydric. Most of the project AOI is covered by level to slightly sloped soils on slopes ranging from 0 to 6 percent that reflects the varied topography found within the project area: the higher knolls are dominated by the deep, somewhat poorly drained sandy soils of the Allendale series and the lower landscape positions within drainageways and depressions contain very poorly drained clay loams, silty clay loams, or silty clays. Wetland hydrology is supported by a generally high water table on poorly drained soils in low areas within an undulating lakeplain landscape.

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The wetland boundaries were determined by the observation of multiple indicators of wetland hydrology associated with wetland vegetation on soils satisfying the Depleted Below Dark Surface (A11), Sandy Mucky Mineral (S1), Sandy Redox (S5), Dark Surface (S7), High Chroma Sands (S11), Depleted Matrix (F3), Redox Depressions (F8), and Redox Dark Surface (F6) hydric soil indicators in wetlands.

Wetland hydrology was directly observed as Surface Water (A1), High Water Table (A2), and Saturation (A3). Other primary hydrology indicators observed in wetlands included Water Marks (B1), Sparsely Vegetated Concave Surface (B8), and Water-Stained Leaves (B9). Secondary hydrology indicators of Geomorphic Position (D2) and a positive FAC-Neutral Test (D5) were satisfied at all sampling points. Other secondary hydrology indicators observed included Moss Trim Lines (B16), Dry-Season Water Table (C2), and Crayfish Burrows (C8).

The boundary determinations primarily relied on the lack of wetland hydrology indicators and on an absence of hydric soil indicators; often hydrophytic vegetation crossed the boundary in moist wooded plant communities. Topographic changes related to ditch slopes, sometimes on steep gradients, or shallow depressional basins also aided the boundary determination.

5. Conclusions

A total of thirty-six (36) separate wetland boundaries and one stream enclosing 75.885 acres were delineated within both sections of the project AOI. Nine (9) wetland boundaries enclosing an additional 29.664 acres were estimated on inaccessible private parcels. These estimated wetlands will need to be field verified prior to any permit applications. A total of seven (7) streams/excavated ditches totaling 6,162.64 feet in length were delineated and estimated within the project AOI. A jurisdictional determination for these wetlands may be needed from the EGLE. A Part 303, PA451 wetland fill permit from the EGLE may be needed for any impacts from activities within jurisdictional wetland boundaries. Independent review by local land use authorities and adoption of the wetland boundaries under shoreland/wetland zoning ordinances may also be required. Final authority over the project rests with the above federal, state, and local agencies.

The wetland and water boundaries established by this work are valid only for the subject project and any use or interpretation of its findings for areas outside the project area of interest is not supported. The user of this wetland boundary report is advised that changing environmental conditions may affect the future validity of the wetland boundaries so established.

6. Certifications and Limitations

The undersigned does hereby certify and state that she is an employee of Mead & Hunt, Inc., that she has been designated as being in responsible charge of the delineation of wetlands described herein; and that this delineation was performed in accordance with the USACE 1987 Wetland Delineation Manual as enhanced by the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (USACE, 2012).

This wetland delineation report documents vegetation, soils, and hydrology conditions on the abovereferenced parcel according to these standard accepted practices, and the wetland boundary so established is valid only for the designated area. No uses or interpretations of wetland conditions or boundaries outside of the work area are supported by this work.

The mapped wetland boundaries are valid under the environmental conditions existing at the time of delineation. The user of this information is hereby notified that changing environmental conditions may affect the future validity of the wetland boundary.

MEAD & HUNT, Inc.

Brauna Hartzell

Wetland Ecologist & GIS Analyst

Date: January 2025

7. References

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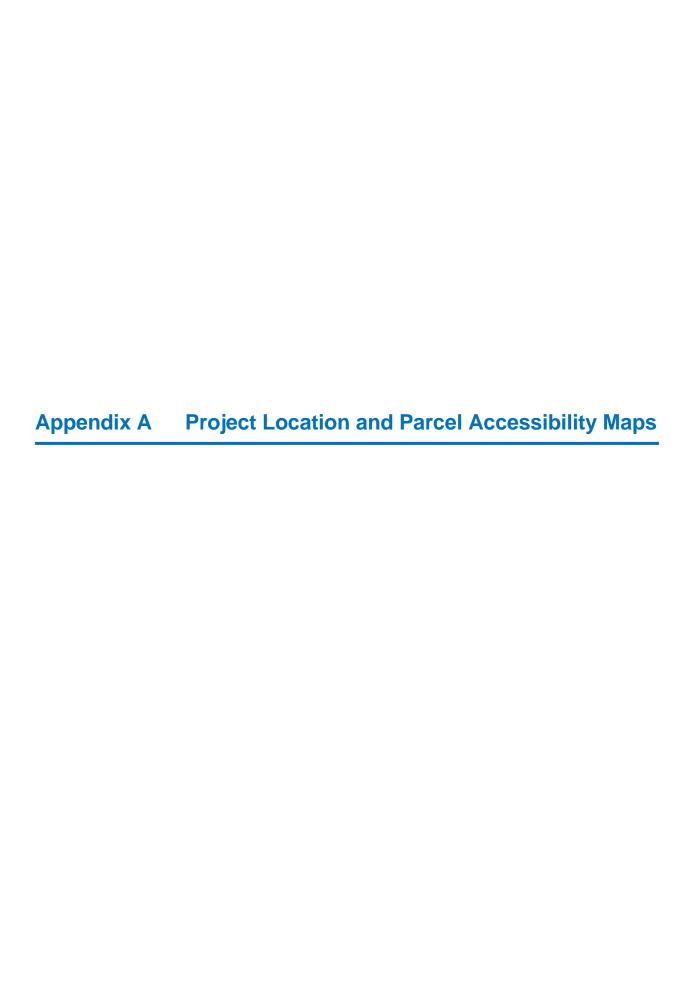
8. List of Preparers/Contributors

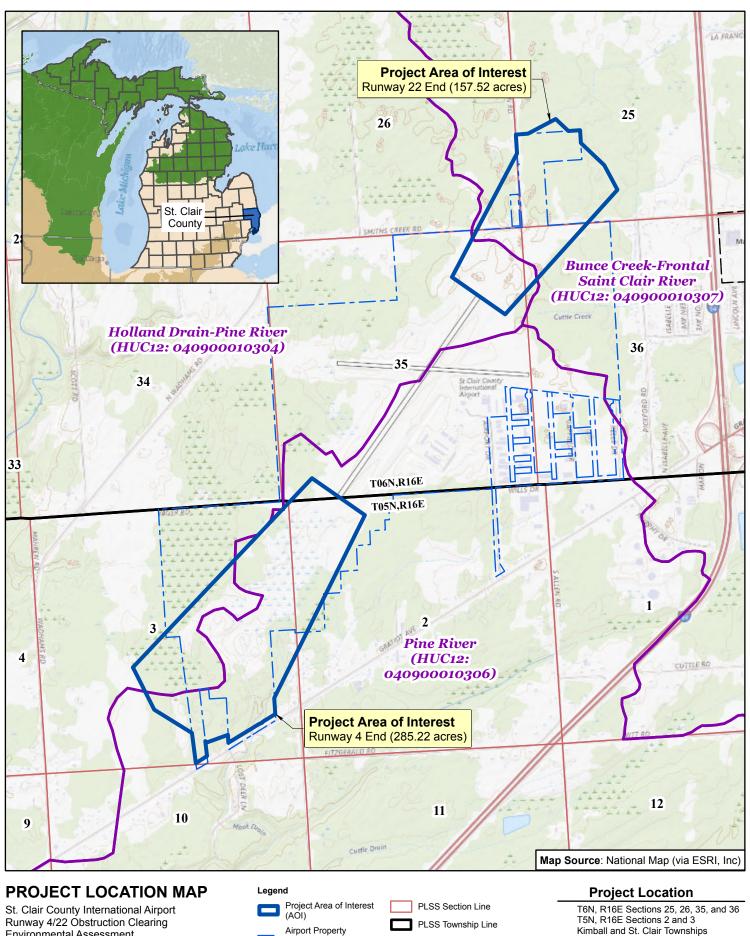
The preparer of this document is:

Brauna Hartzell, GISP, PWS 2440 Deming Way, Middleton, WI 53562 Mead & Hunt, Inc.

Contributors to this document include:

Caroline Bruchman and Kim Shannon Mead & Hunt, Inc.

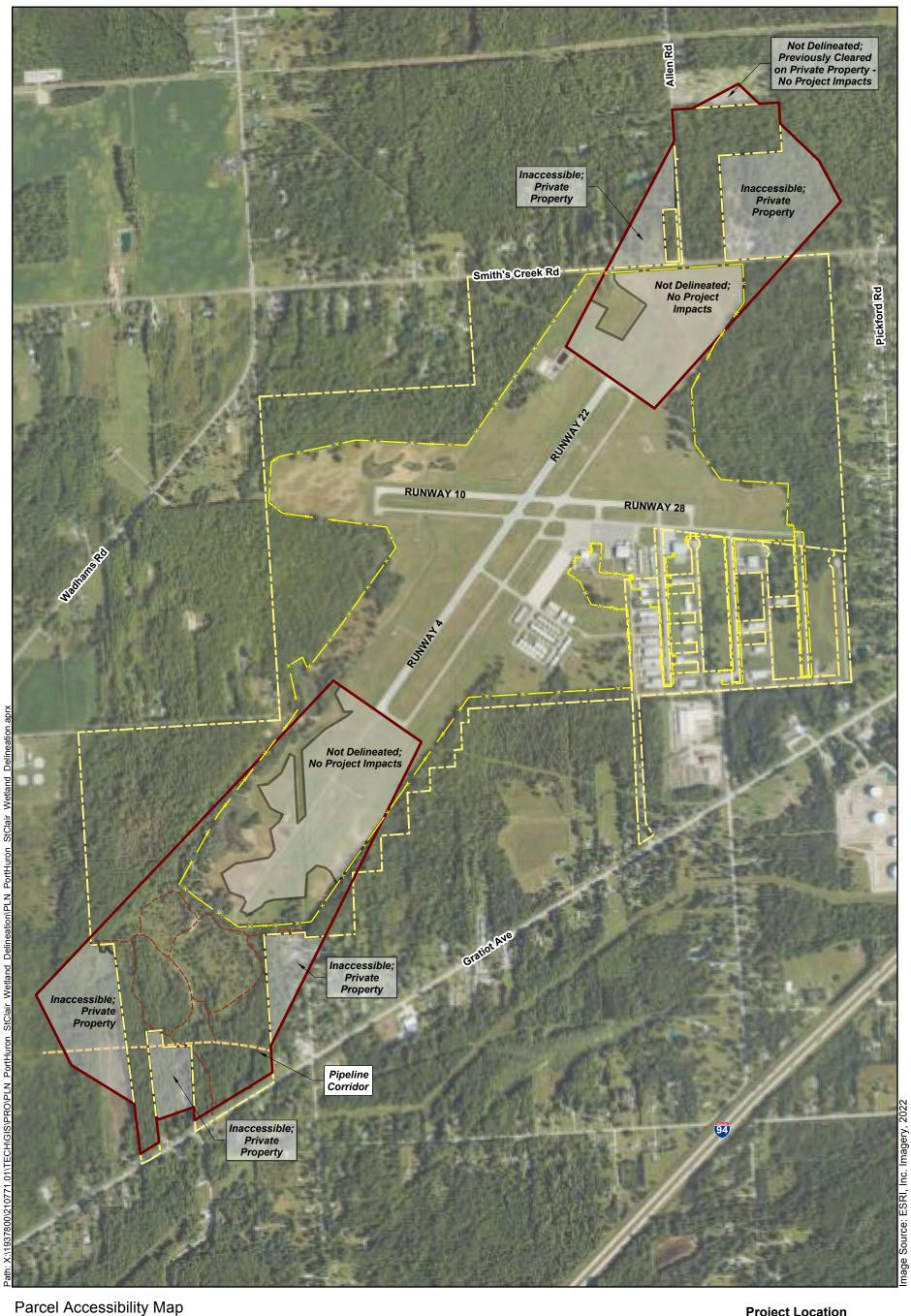




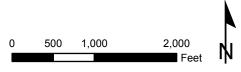
Runway 4/22 Obstruction Clearing Environmental Assessment 0 500 1,000 2,000 Feet

Legend Project Area of Interest (AOI) Airport Property Boundary Major Watershed County Line Municipal Boundary PLSS Section Line PLSS Township Line LAND RESOURCE REGION K Municipal Boundary M

T6N, R16E Sections 25, 26, 35, and 36
T5N, R16E Sections 2 and 3
Kimball and St. Clair Townships
St. Clair County, MI
LRR Subregion: L
USACE Regional Supplement: NC/NE
Area of Interest: 442.74 acres
USGS Quads: Smiths Creek
Field work: Aug. 16 - 23, Oct. 3 - 7, 2022
June. 6 - 14, Sept. 25 - Oct. 4, 2023



St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**



LEGEND

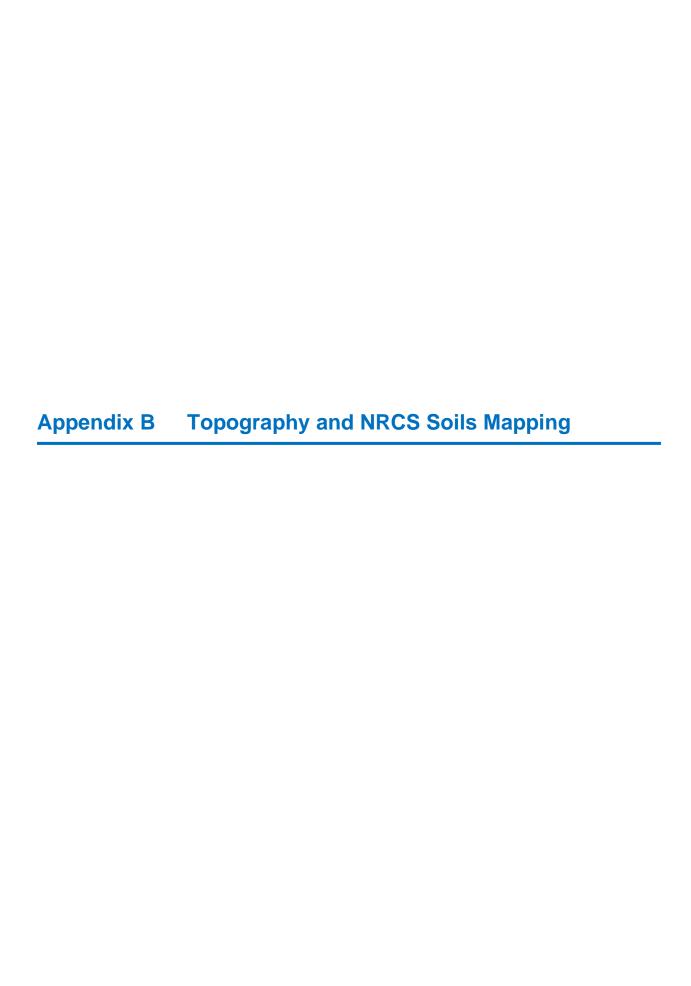
Project Area of Interest (AOI) Area not Delineated

Existing Fence

— - Airport Property Boundary ---- Pipeline Corridor

---- Two-track

Project Location





TOPOGRAPHY MAP

St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

Runway 22 End

900 1,200 300 600

Project Area of Interest (AOI)

- Existing Fence Airport Property Boundary

Major Watershed --- Pipeline Corridor ---- Two-track

Legend

Contour Type Index Index Depression Intermediate

Data Sources

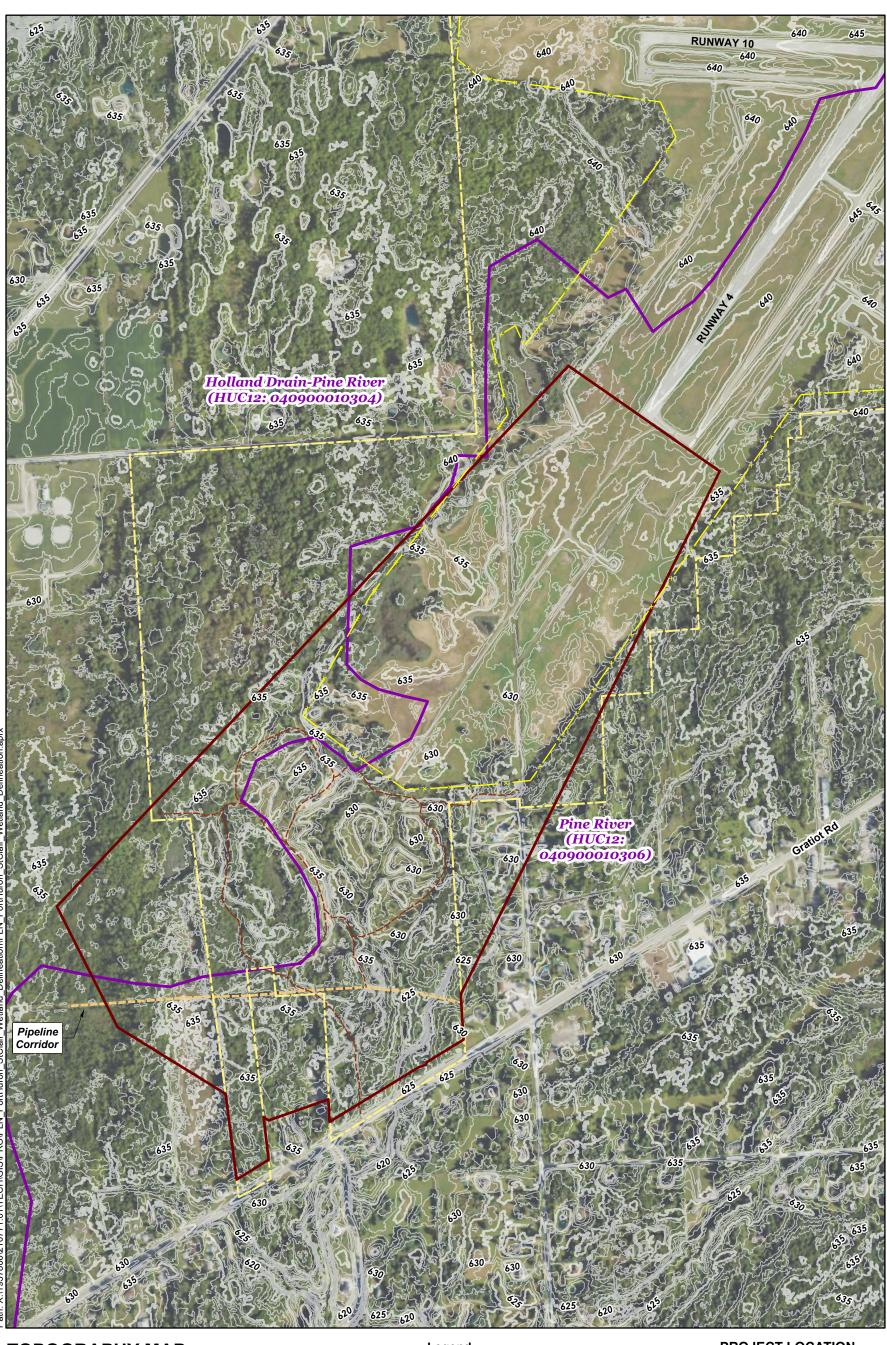
Data Sources

1. Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG) GIS Data Portal (https://contours.semcog.org/)

2. Image Source: FSA NAIP Imagery (https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Intermediate Depression

PROJECT LOCATION



TOPOGRAPHY MAP

St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

Runway 4 End

600 900 1,200

Project Area of Interest (AOI)

 Existing Fence Airport Property Boundary Major Watershed

--- Pipeline Corridor ---- Two-track

Legend **Contour Type**

Index

Index Depression Intermediate

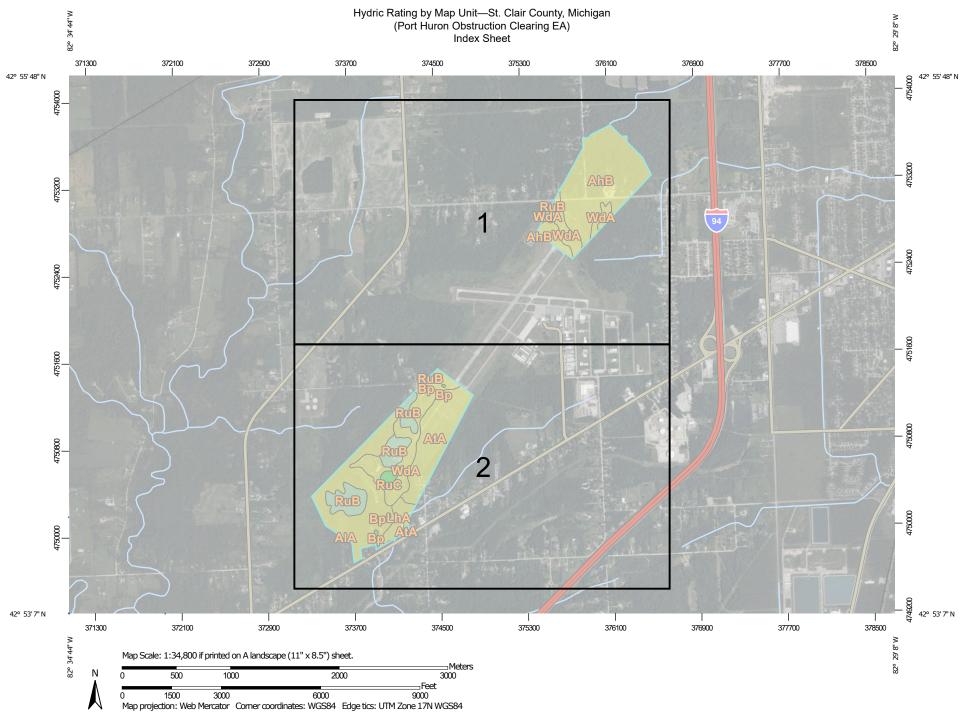
Intermediate Depression

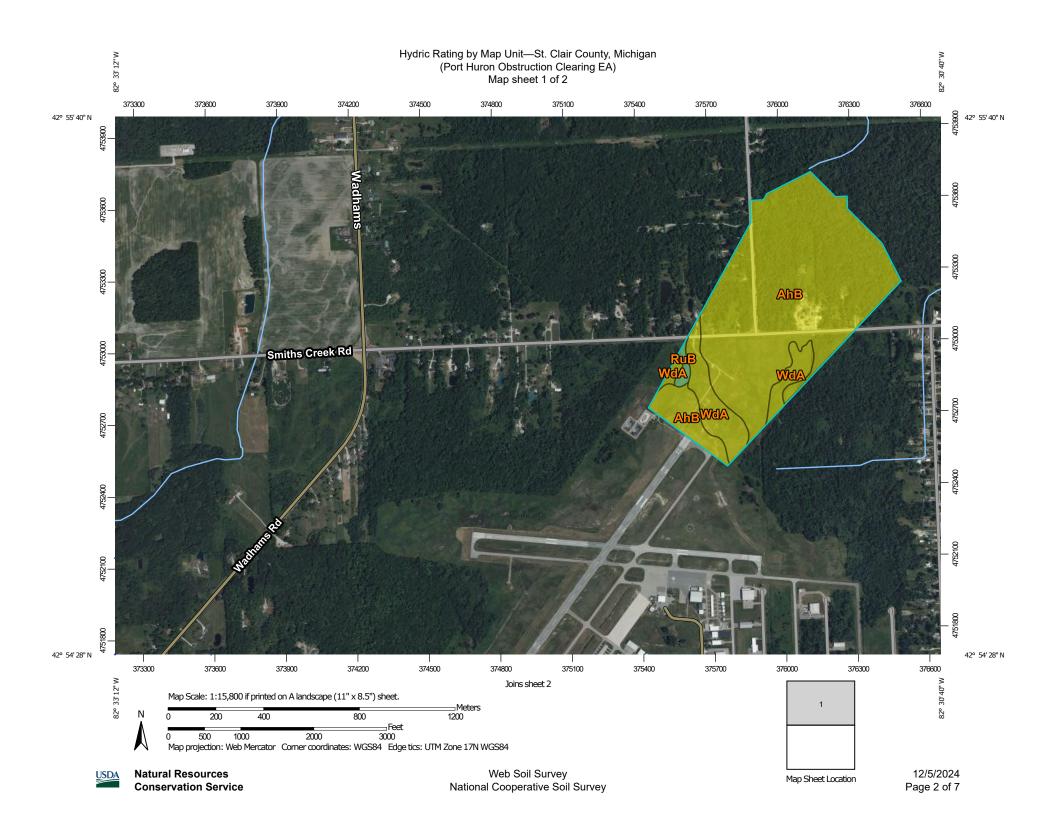
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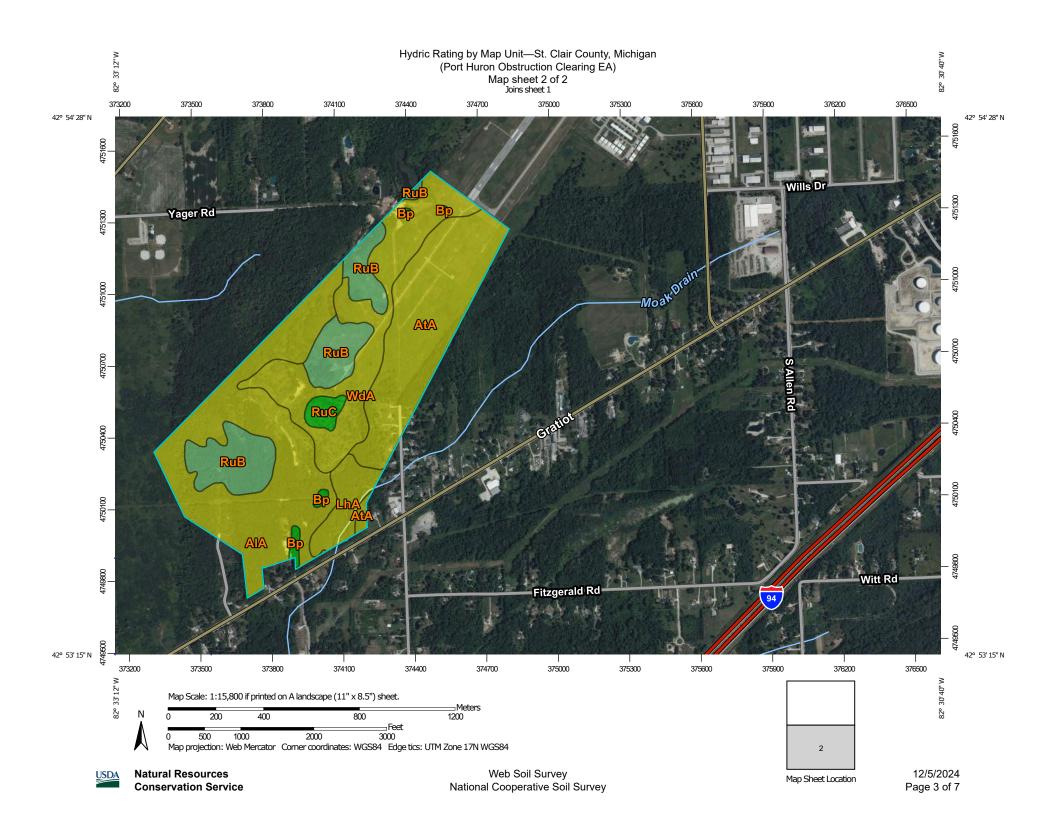
1. Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG) GIS Data Portal (https://contours.semcog.org/)

2. Image Source: FSA NAIP Imagery (https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

PROJECT LOCATION







MAP LEGEND MAP INFORMATION The soil surveys that comprise your AOI were mapped at Area of Interest (AOI) Transportation 1:20.000. Area of Interest (AOI) Rails Please rely on the bar scale on each map sheet for map Soils Interstate Highways measurements. **Soil Rating Polygons** US Routes Hydric (100%) Source of Map: Natural Resources Conservation Service Major Roads Web Soil Survey URL: Hydric (66 to 99%) Coordinate System: Web Mercator (EPSG:3857) Local Roads \sim Hydric (33 to 65%) Maps from the Web Soil Survey are based on the Web Mercator Background projection, which preserves direction and shape but distorts Hydric (1 to 32%) Aerial Photography distance and area. A projection that preserves area, such as the Not Hydric (0%) Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. Not rated or not available This product is generated from the USDA-NRCS certified data as Soil Rating Lines of the version date(s) listed below. Hydric (100%) Soil Survey Area: St. Clair County, Michigan Hydric (66 to 99%) Survey Area Data: Version 20, Aug 28, 2024 Hydric (33 to 65%) Soil map units are labeled (as space allows) for map scales 1:50.000 or larger. Hydric (1 to 32%) Date(s) aerial images were photographed: Jul 5, 2020—Sep 19, Not Hydric (0%) 2020 Not rated or not available The orthophoto or other base map on which the soil lines were **Soil Rating Points** compiled and digitized probably differs from the background Hydric (100%) imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident. 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

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AhB	Allendale-Hoytville complex, 0 to 6 percent slopes	45	135.5	30.6%
AIA	Allendale-Latty complex, 0 to 3 percent slopes	45	93.1	21.0%
AtA	Allendale-Lenawee- Toledo complex, 0 to 3 percent slopes	55	70.2	15.9%
Вр	Borrow pits	0	2.6	0.6%
LhA	Latty complex, 0 to 3 percent slopes	46	13.7	3.1%
RuB	Rousseau fine sand, 0 to 6 percent slopes	2	44.4	10.0%
RuC	Rousseau fine sand, 6 to 12 percent slopes	0	4.5	1.0%
WdA	Wainola-Deford fine sands, 0 to 2 percent slopes	35	78.5	17.7%
Totals for Area of Inter	rest	1	442.6	100.0%

Description

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.

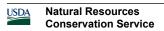
The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria 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:

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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.

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Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Hydric Soil List - All Components

This table lists the map unit components and their hydric status in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

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). These soils, under natural conditions, 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).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

- 1. All Histels except for Folistels, and Histosols except for Folists.
- Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States. or
 - B. Show evidence that the soil meets the definition of a hydric soil;
- Soils that are frequently ponded for long or very long duration during the growing season.
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil;
- 4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

- Federal Register. July 13, 1994. Changes in hydric soils of the United States. Federal Register. Doc. 2012-4733 Filed 2-28-12. February, 28, 2012. Hydric soils of 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. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
- Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

Report—Hydric Soil List - All Components

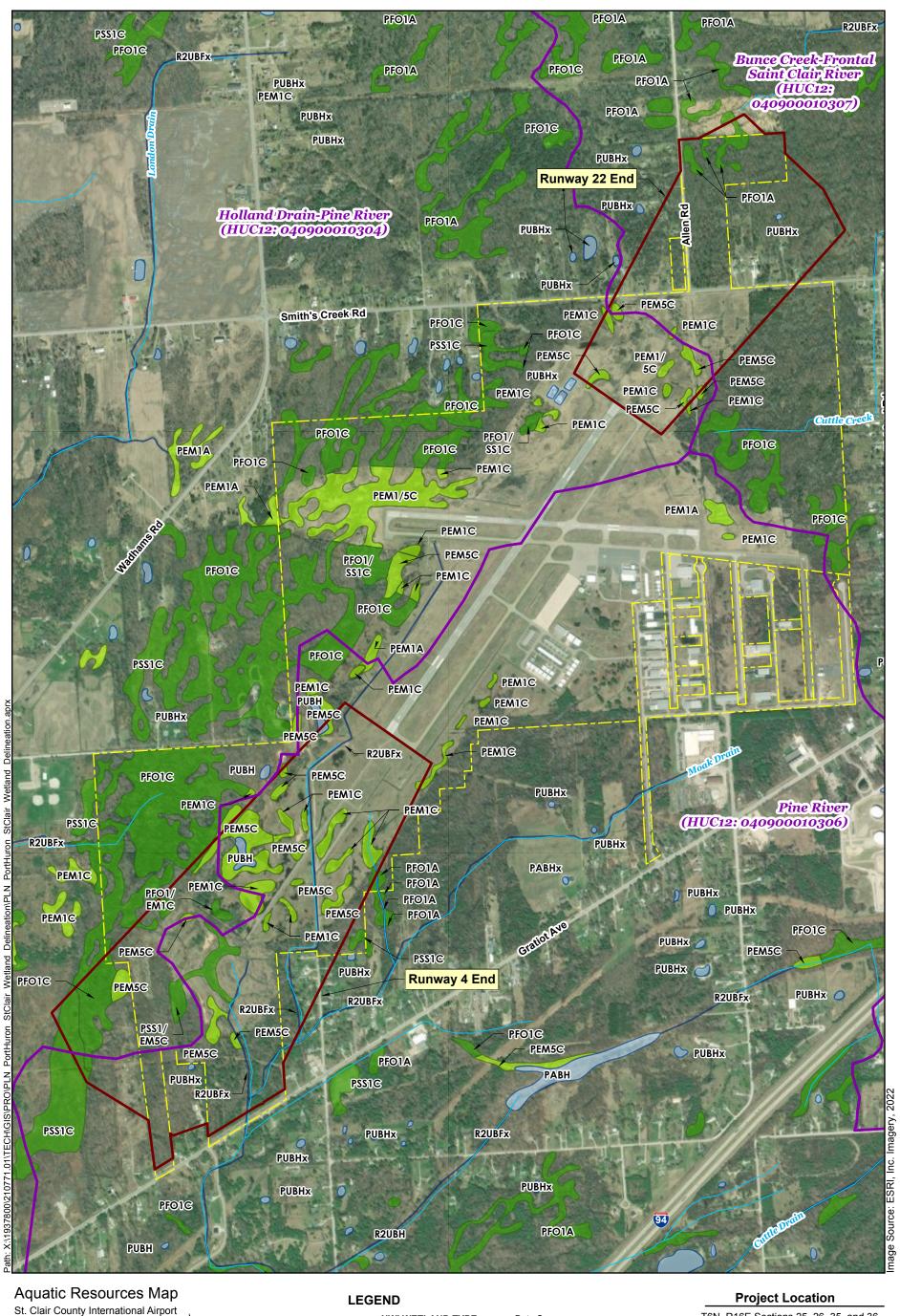
Hydri	c Soil List - All Compo	onents-MI1	47-St. Clair County, Mic	higan	
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
AhB: Allendale-Hoytville complex, 0 to 6 percent slopes	Allendale	45-55	Knolls on till plains	No	_
	Hoytville	35-45	Depressions on till plains,drainageway s on till plains	Yes	2,3
	Nappanee	5-5	Knolls on till plains	No	_
	Sims	5-5	Depressions on till plains,drainageway s on till plains	Yes	2,3
AIA: Allendale-Latty complex, 0 to 3 percent slopes	Allendale	50-60	Knolls on lake plains	No	_
	Latty	40-50	Drainageways on lake plains,depressions on lake plains	Yes	2,3
AtA: Allendale-Lenawee-Toledo complex, 0 to 3 percent slopes	Allendale	40-50	Knolls on lake plains	No	_
	Toledo	20-25	Drainageways on lake plains,depressions on lake plains	Yes	2,3
	Lenawee	20-25	Drainageways on lake plains,depressions on lake plains	Yes	2,3
	Lamson	0-20	Depressions on lake plains	Yes	2,3
Bp: Borrow pits	Borrow pits	100-100	_	Unranked	_
LhA: Latty complex, 0 to 3 percent slopes	Latty	40-50	Flats on lake plains,drainageway s on lake plains	Yes	2,3
	Latty-Less wet	40-50	Knolls on lake plains	No	2,3
	Allendale	0-10	Knolls on lake plains	No	_
	Minoa	0-10	Knolls on lake plains	No	_
RuB: Rousseau fine sand, 0 to 6 percent slopes	Rousseau	93-97	Beaches on lake plains	No	_
	Wainola	1-5	Swales on lake plains	No	_
	Deford	1-5	Drainageways on lake plains,depressions on lake plains	Yes	2,3
RuC: Rousseau fine sand, 6 to 12 percent slopes	Rousseau	100-100	Knolls on lake plains,drainageway s,ridges on lake plains,beaches	No	_

Hydric Soil List - All Components–MI147-St. Clair County, Michigan								
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)			
WdA: Wainola-Deford fine sands, 0 to 2 percent slopes	Wainola	45-70	Beaches,outwash plains,knolls on deltas	No	_			
	Deford	15-40	Depressions on deltas,drainageway s on deltas	Yes	2,3			
	Gilford	0-10	Depressions on deltas	Yes	2,3			
	Rousseau	0-10	Ridges on deltas	No	_			

Data Source Information

Soil Survey Area: St. Clair County, Michigan Survey Area Data: Version 20, Aug 28, 2024

Appendix C Aquatic Resources and FEMA Floodplain Mapping



Runway 4/22 Obstruction Clearing Environmental Assessment

500 1,000 2,000 Feet

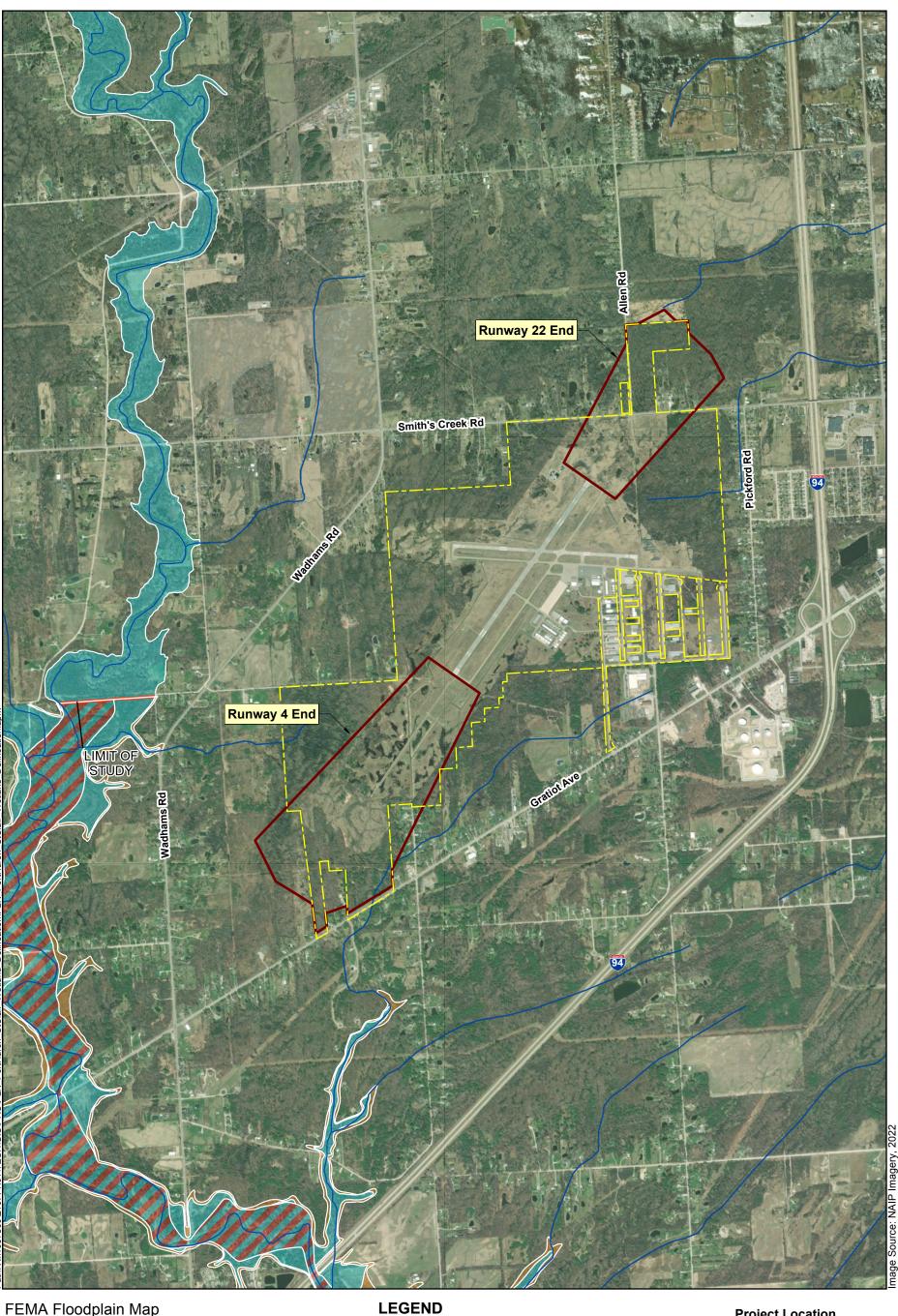
NWI WETLAND TYPE Airport Property Boundary Freshwater Emergent

Wetland

Project Area of Interest HUC-12 Watershed

Freshwater Forested/ Shrub Wetland **NHD Line** Freshwater Pond Canal/Ditch Riverine

- Data Source: National Wetlands Inventory (NWI)
 Data downloaded from https://www.fws.gov/ program/national-wetlands-inventory/ wetlands-data for HUC 04090001; NWI data updated 2015
- National Hydrography Dataset (NHD)
 Data downloaded from TNM Download
 https://apps.nationalmap.gov/downloader



FEMA Floodplain Map

St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

0 500 1,000 2,000 3,000

Airport Property Boundary



Project Area of Interest (AOI)

Flood Hazard Boundaries

Limit Lines

SFHA / Flood Zone Boundary

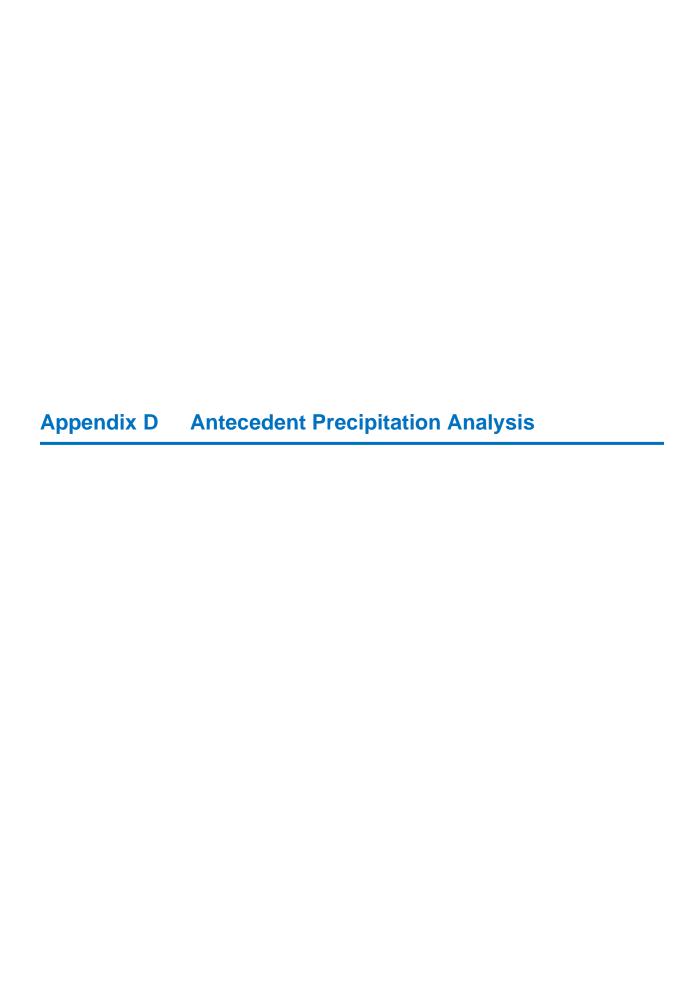
Flood Hazard Zones

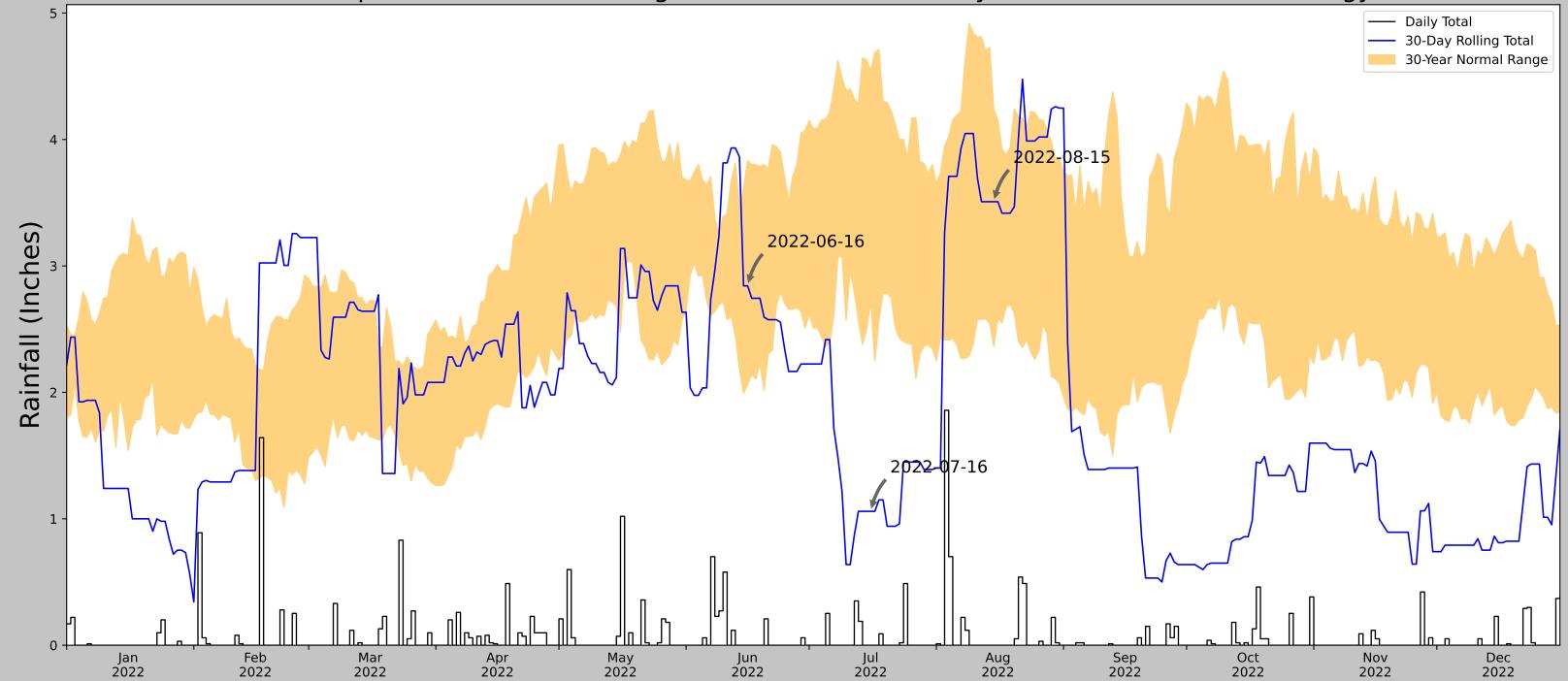
1% Annual Chance Flood Hazard

Regulatory Floodway 0.2% Annual Chance Flood Hazard

Data Source:
1. FEMA National Flood Hazard Layer (NFHL)
https://hazards.fema.gov/arcgis/rest/services/public/NFHL/MapServer
Map Panel: 26147C0345D (eff. 5/3/2010)

Project Location





Coordinates	42.910438999, -82.5280952
Observation Date	2022-08-15
Elevation (ft)	644.588
Drought Index (PDSI)	Incipient drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-08-15	2.365354	4.236221	3.507874	Normal	2	3	6
2022-07-16	2.715748	4.542914	1.059055	Dry	1	2	2
2022-06-16	2.060236	3.834252	2.84252	Normal	2	1	2
Result							Normal Conditions - 10



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Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

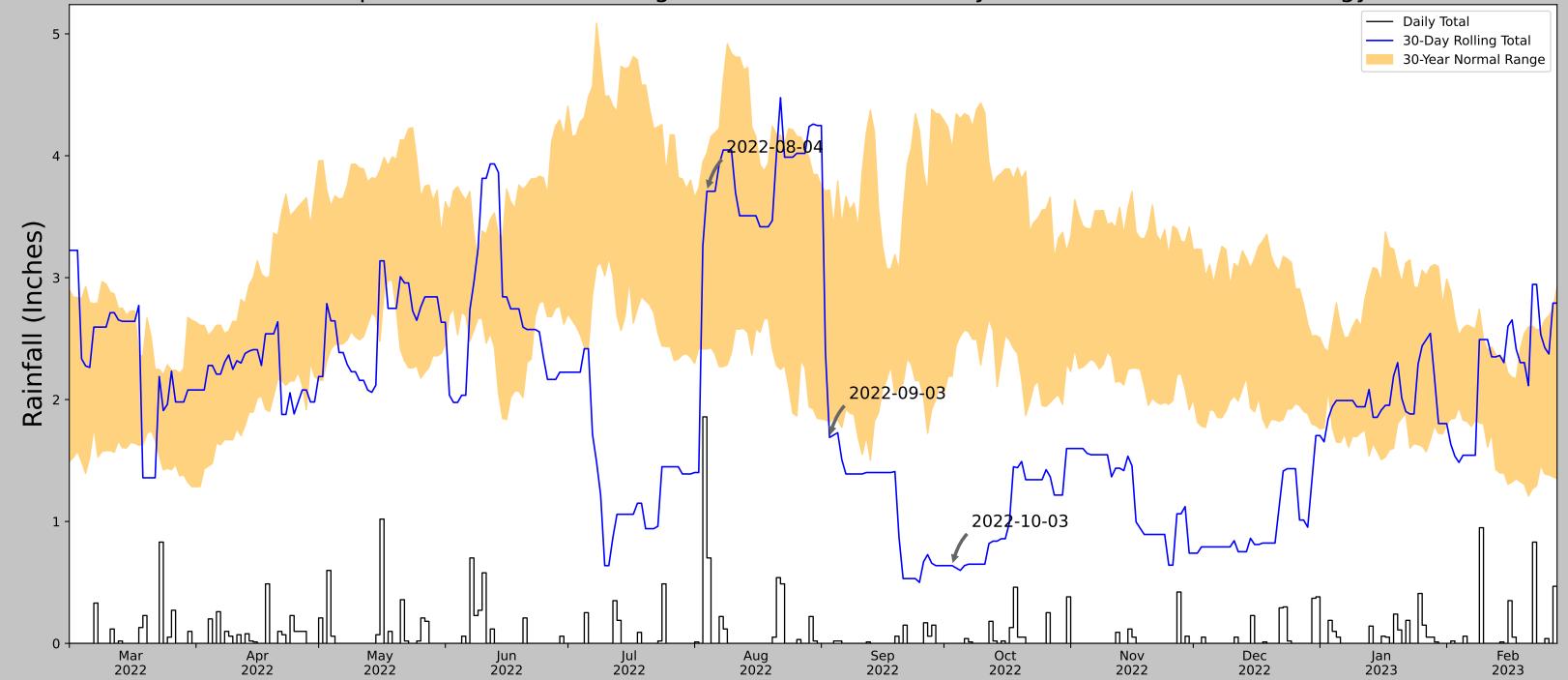
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
PORT HURON	42.975, -82.4194	589.895	7.08	54.693	3.573	11271	90
PORT HURON 2.0 SSW	42.9668, -82.4503	604.003	1.662	14.108	0.771	1	0
PORT HURON 1.6 W	42.9962, -82.4643	610.892	2.701	20.997	1.272	5	0
SARNIA CHRIS HADFIELD A	43.0, -82.3167	593.832	5.471	3.937	2.483	10	0
SARNIA AIRPORT	43.0, -82.3	593.832	6.277	3.937	2.849	66	0

Climatological Data for PORT HURON, MI - August 2022

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2022-08-01	84	70	77.0	37	27	0.01	0.0	0
2022-08-02	81	63	72.0	32	22	0.00	0.0	0
2022-08-03	89	66	77.5	38	28	1.86	0.0	0
2022-08-04	79	71	75.0	35	25	0.70	0.0	0
2022-08-05	84	71	77.5	38	28	0.00	0.0	0
2022-08-06	89	73	81.0	41	31	0.00	0.0	0
2022-08-07	89	75	82.0	42	32	0.22	0.0	0
2022-08-08	87	68	77.5	38	28	0.12	0.0	0
2022-08-09	76	64	70.0	30	20	0.00	0.0	0
2022-08-10	85	59	72.0	32	22	0.00	0.0	0
2022-08-11	75	65	70.0	30	20	0.00	0.0	0
2022-08-12	80	57	68.5	29	19	0.00	0.0	0
2022-08-13	74	60	67.0	27	17	0.00	0.0	0
2022-08-14	74	64	69.0	29	19	Т	0.0	0
2022-08-15	80	67	73.5	34	24	0.00	0.0	0
2022-08-16	81	68	74.5	35	25	0.00	0.0	0
2022-08-17	81	66	73.5	34	24	0.00	0.0	0
2022-08-18	87	64	75.5	36	26	0.00	0.0	0
2022-08-19	85	66	75.5	36	26	0.00	0.0	0
2022-08-20	83	68	75.5	36	26	0.05	0.0	0
2022-08-21	86	68	77.0	37	27	0.54	0.0	0
2022-08-22	79	66	72.5	33	23	0.49	0.0	0
2022-08-23	85	63	74.0	34	24	0.00	0.0	0
2022-08-24	88	66	77.0	37	27	0.00	0.0	0
2022-08-25	84	69	76.5	37	27	Т	0.0	0
2022-08-26	75	67	71.0	31	21	0.03	0.0	0
2022-08-27	81	61	71.0	31	21	0.00	0.0	0
2022-08-28	82	60	71.0	31	21	0.00	0.0	0
2022-08-29	83	70	76.5	37	27	0.22	0.0	0
2022-08-30	80	70	75.0	35	25	0.02	0.0	0
2022-08-31	83	61	72.0	32	22	0.00	0.0	0
Average Sum	82.2	66.0	74.1	1064	754	4.26	0.0	0.0

Climatological Data for PORT HURON, MI - September 2022

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2022-09-01	83	60	71.5	32	22	0.00	0.0	0
2022-09-02	83	68	75.5	36	26	0.00	0.0	0
2022-09-03	87	69	78.0	38	28	0.00	0.0	0
2022-09-04	72	66	69.0	29	19	0.02	0.0	0
2022-09-05	75	63	69.0	29	19	0.02	0.0	0
2022-09-06	77	66	71.5	32	22	0.00	0.0	0
2022-09-07	79	56	67.5	28	18	0.00	0.0	0
2022-09-08	82	57	69.5	30	20	0.00	0.0	0
2022-09-09	83	61	72.0	32	22	0.00	0.0	0
2022-09-10	86	67	76.5	37	27	0.00	0.0	0
2022-09-11	76	69	72.5	33	23	0.00	0.0	0
2022-09-12	71	61	66.0	26	16	0.01	0.0	0
2022-09-13	76	57	66.5	27	17	Т	0.0	0
2022-09-14	80	60	70.0	30	20	0.00	0.0	0
2022-09-15	73	56	64.5	25	15	0.00	0.0	0
2022-09-16	82	61	71.5	32	22	0.00	0.0	0
2022-09-17	82	63	72.5	33	23	0.00	0.0	0
2022-09-18	86	71	78.5	39	29	Т	0.0	0
2022-09-19	84	67	75.5	36	26	0.06	0.0	0
2022-09-20	81	60	70.5	31	21	0.00	0.0	0
2022-09-21	80	66	73.0	33	23	0.15	0.0	0
2022-09-22	73	52	62.5	23	13	0.00	0.0	0
2022-09-23	67	48	57.5	18	8	0.00	0.0	0
2022-09-24	62	52	57.0	17	7	Т	0.0	0
2022-09-25	65	56	60.5	21	11	T	0.0	0
2022-09-26	61	52	56.5	17	7	0.17	0.0	0
2022-09-27	57	52	54.5	15	5	0.06	0.0	0
2022-09-28	57	49	53.0	13	3	0.15	0.0	0
2022-09-29	66	50	58.0	18	8	0.00	0.0	0
2022-09-30	68	46	57.0	17	7	0.00	0.0	0
Average Sum	75.1	59.4	67.3	827	527	0.64	0.0	0.0



Coordinates	42.910438999, -82.5280952
Observation Date	2022-10-03
Elevation (ft)	644.588
Drought Index (PDSI)	Mild drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-03	2.191339	4.055906	0.637795	Dry	1	3	3
2022-09-03	1.813386	3.720079	1.688976	Dry	1	2	2
2022-08-04	2.414173	4.020866	3.708662	Normal	2	1	2
Result							Drier than Normal - 7



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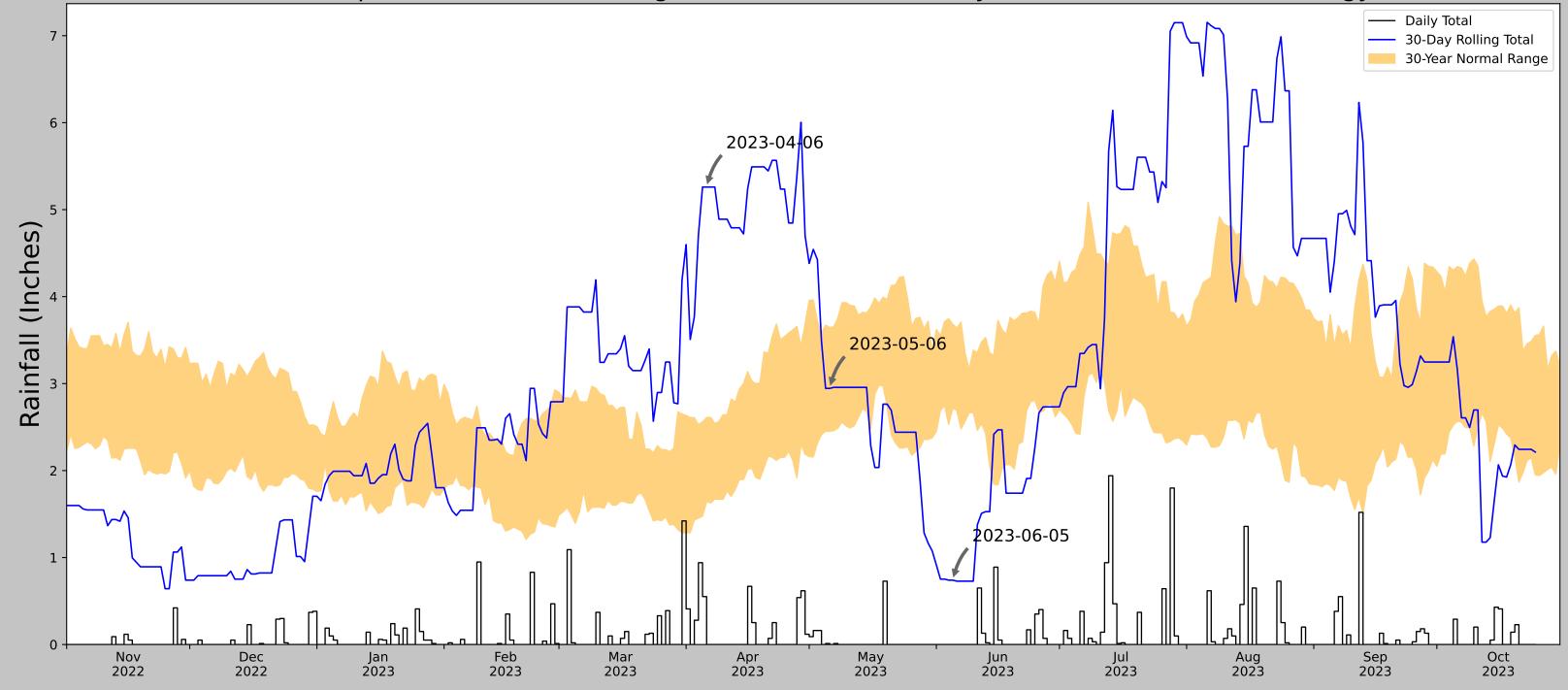
Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
PORT HURON	42.975, -82.4194	589.895	7.08	54.693	3.573	11269	90
PORT HURON 2.0 SSW	42.9668, -82.4503	604.003	1.662	14.108	0.771	1	0
PORT HURON 1.6 W	42.9962, -82.4643	610.892	2.701	20.997	1.272	7	0
SARNIA CHRIS HADFIELD A	43.0, -82.3167	593.832	5.471	3.937	2.483	10	0
SARNIA AIRPORT	43.0, -82.3	593.832	6.277	3.937	2.849	66	0

Climatological Data for PORT HURON, MI - October 2022

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2022-10-01	66	55	60.5	21	11	0.00	0.0	0
2022-10-02	62	53	57.5	18	8	0.00	0.0	0
2022-10-03	64	43	53.5	14	4	0.00	0.0	0
2022-10-04	74	43	58.5	19	9	0.00	0.0	0
2022-10-05	82	49	65.5	26	16	0.00	0.0	0
2022-10-06	77	55	66.0	26	16	0.04	0.0	0
2022-10-07	57	41	49.0	9	0	0.01	0.0	0
2022-10-08	56	36	46.0	6	0	0.00	0.0	0
2022-10-09	68	42	55.0	15	5	Т	0.0	0
2022-10-10	60	50	55.0	15	5	0.00	0.0	0
2022-10-11	74	51	62.5	23	13	0.00	0.0	0
2022-10-12	68	61	64.5	25	15	0.18	0.0	0
2022-10-13	61	44	52.5	13	3	0.02	0.0	0
2022-10-14	58	40	49.0	9	0	0.00	0.0	0
2022-10-15	56	44	50.0	10	0	0.02	0.0	0
2022-10-16	58	42	50.0	10	0	0.00	0.0	0
2022-10-17	47	38	42.5	3	0	0.13	0.0	0
2022-10-18	41	38	39.5	0	0	0.46	0.0	0
2022-10-19	42	39	40.5	1	0	0.05	0.0	0
2022-10-20	41	37	39.0	0	0	0.05	0.0	0
2022-10-21	60	39	49.5	10	0	0.00	0.0	0
2022-10-22	71	51	61.0	21	11	0.00	0.0	0
2022-10-23	73	54	63.5	24	14	0.00	0.0	0
2022-10-24	74	51	62.5	23	13	0.00	0.0	0
2022-10-25	72	57	64.5	25	15	0.00	0.0	0
2022-10-26	64	43	53.5	14	4	0.25	0.0	0
2022-10-27	54	39	46.5	7	0	0.00	0.0	0
2022-10-28	57	41	49.0	9	0	0.00	0.0	0
2022-10-29	60	39	49.5	10	0	0.00	0.0	0
2022-10-30	65	43	54.0	14	4	0.00	0.0	0
2022-10-31	61	52	56.5	17	7	0.38	0.0	0
Average Sum	62.0	45.5	53.8	437	173	1.59	0.0	0.0



Coordinates	42.910438999, -82.5280952
Observation Date	2023-06-05
Elevation (ft)	644.588
Drought Index (PDSI)	Mild drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-06-05	2.718504	3.682677	0.740158	Dry	1	3	3
2023-05-06	2.451575	3.644095	2.944882	Normal	2	2	4
2023-04-06	1.643701	2.609843	5.259843	Wet	3	1	3
Result							Normal Conditions - 10



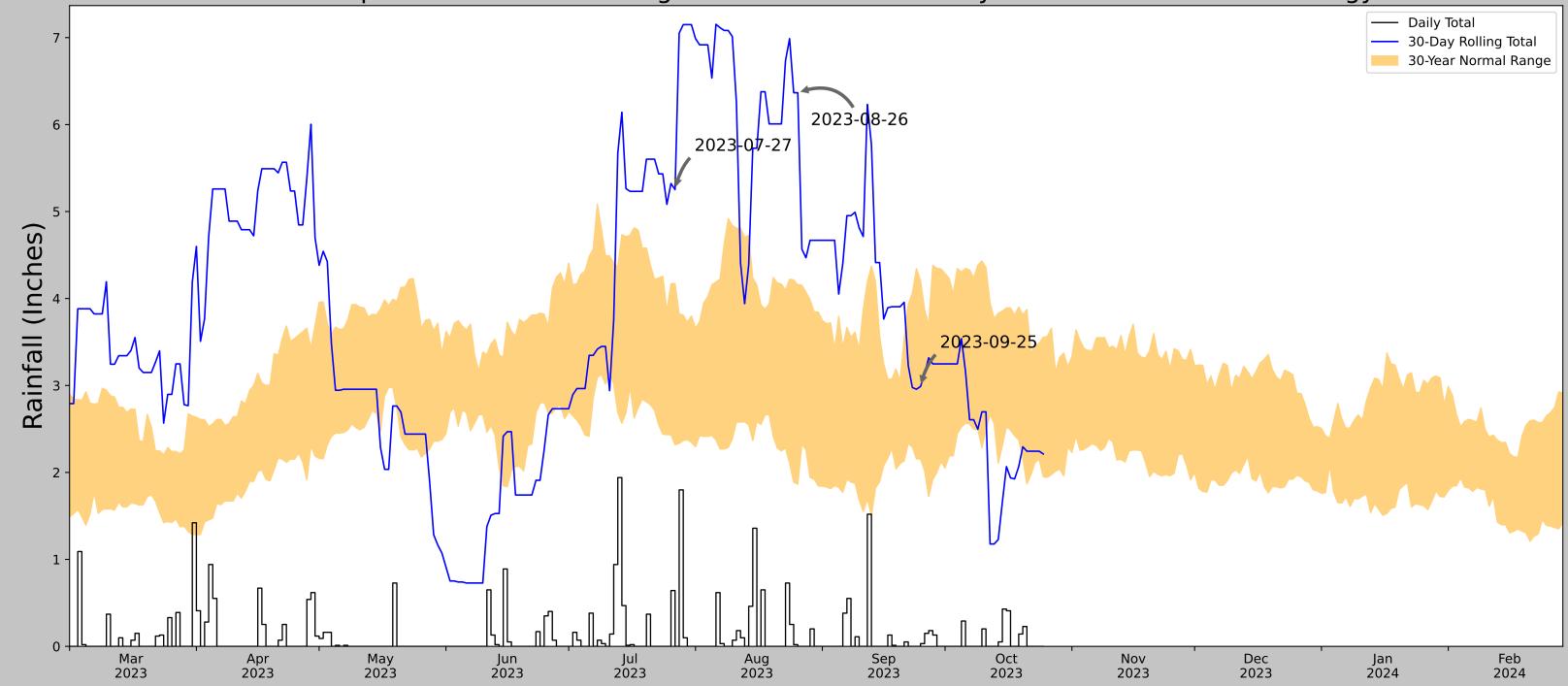
Figures and tables made by the Antecedent Precipitation Tool Version 2.0

U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
PORT HURON	42.975, -82.4194	589.895	7.08	54.693	3.573	11269	90
PORT HURON 2.0 SSW	42.9668, -82.4503	604.003	1.662	14.108	0.771	1	0
PORT HURON 1.6 W	42.9962, -82.4643	610.892	2.701	20.997	1.272	7	0
SARNIA CHRIS HADFIELD A	43.0, -82.3167	593.832	5.471	3.937	2.483	10	0
SARNIA AIRPORT	43.0, -82.3	593.832	6.277	3.937	2.849	66	0

Climatological Data for PORT HURON, MI - June 2023

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2023-06-01	86	56	71.0	31	21	0.00	0.0	0
2023-06-02	78	63	70.5	31	21	0.00	0.0	0
2023-06-03	76	62	69.0	29	19	0.00	0.0	0
2023-06-04	69	55	62.0	22	12	0.00	0.0	0
2023-06-05	81	55	68.0	28	18	0.00	0.0	0
2023-06-06	65	57	61.0	21	11	0.00	0.0	0
2023-06-07	65	51	58.0	18	8	0.00	0.0	0
2023-06-08	67	54	60.5	21	11	0.00	0.0	0
2023-06-09	77	53	65.0	25	15	0.00	0.0	0
2023-06-10	81	56	68.5	29	19	0.00	0.0	0
2023-06-11	72	56	64.0	24	14	0.65	0.0	0
2023-06-12	64	54	59.0	19	9	0.13	0.0	0
2023-06-13	66	51	58.5	19	9	0.02	0.0	0
2023-06-14	70	51	60.5	21	11	0.00	0.0	0
2023-06-15	69	57	63.0	23	13	0.89	0.0	0
2023-06-16	64	56	60.0	20	10	0.05	0.0	0
2023-06-17	75	55	65.0	25	15	0.00	0.0	0
2023-06-18	84	52	68.0	28	18	0.00	0.0	0
2023-06-19	75	60	67.5	28	18	0.00	0.0	0
2023-06-20	77	62	69.5	30	20	0.00	0.0	0
2023-06-21	79	61	70.0	30	20	0.00	0.0	0
2023-06-22	80	63	71.5	32	22	0.00	0.0	0
2023-06-23	72	63	67.5	28	18	0.17	0.0	0
2023-06-24	85	63	74.0	34	24	Т	0.0	0
2023-06-25	80	63	71.5	32	22	0.35	0.0	0
2023-06-26	75	64	69.5	30	20	0.40	0.0	0
2023-06-27	68	64	66.0	26	16	0.07	0.0	0
2023-06-28	77	58	67.5	28	18	0.00	0.0	0
2023-06-29	79	63	71.0	31	21	0.00	0.0	0
2023-06-30	85	67	76.0	36	26	0.00	0.0	0
Average Sum	74.7	58.2	66.4	799	499	2.73	0.0	0.0



Coordinates	42.910438999, -82.5280952
Observation Date	2023-09-25
Elevation (ft)	644.588
Drought Index (PDSI)	Mild wetness
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-09-25	2.154724	4.206693	2.988189	Normal	2	3	6
2023-08-26	1.864961	4.159055	6.366142	Wet	3	2	6
2023-07-27	2.318504	4.17126	5.251969	Wet	3	1	3
Result							Wetter than Normal - 15



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

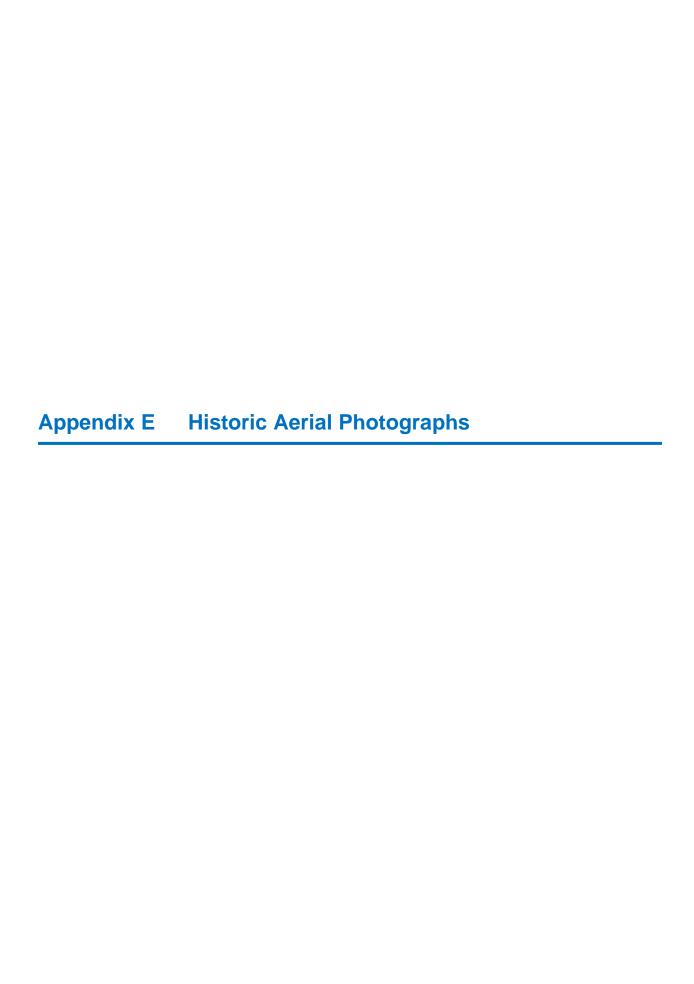
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
PORT HURON	42.975, -82.4194	589.895	7.08	54.693	3.573	11269	87
PORT HURON 2.0 SSW	42.9668, -82.4503	604.003	1.662	14.108	0.771	1	0
PORT HURON 1.6 W	42.9962, -82.4643	610.892	2.701	20.997	1.272	7	3
SARNIA CHRIS HADFIELD A	43.0, -82.3167	593.832	5.471	3.937	2.483	10	0
SARNIA AIRPORT	43.0, -82.3	593.832	6.277	3.937	2.849	66	0

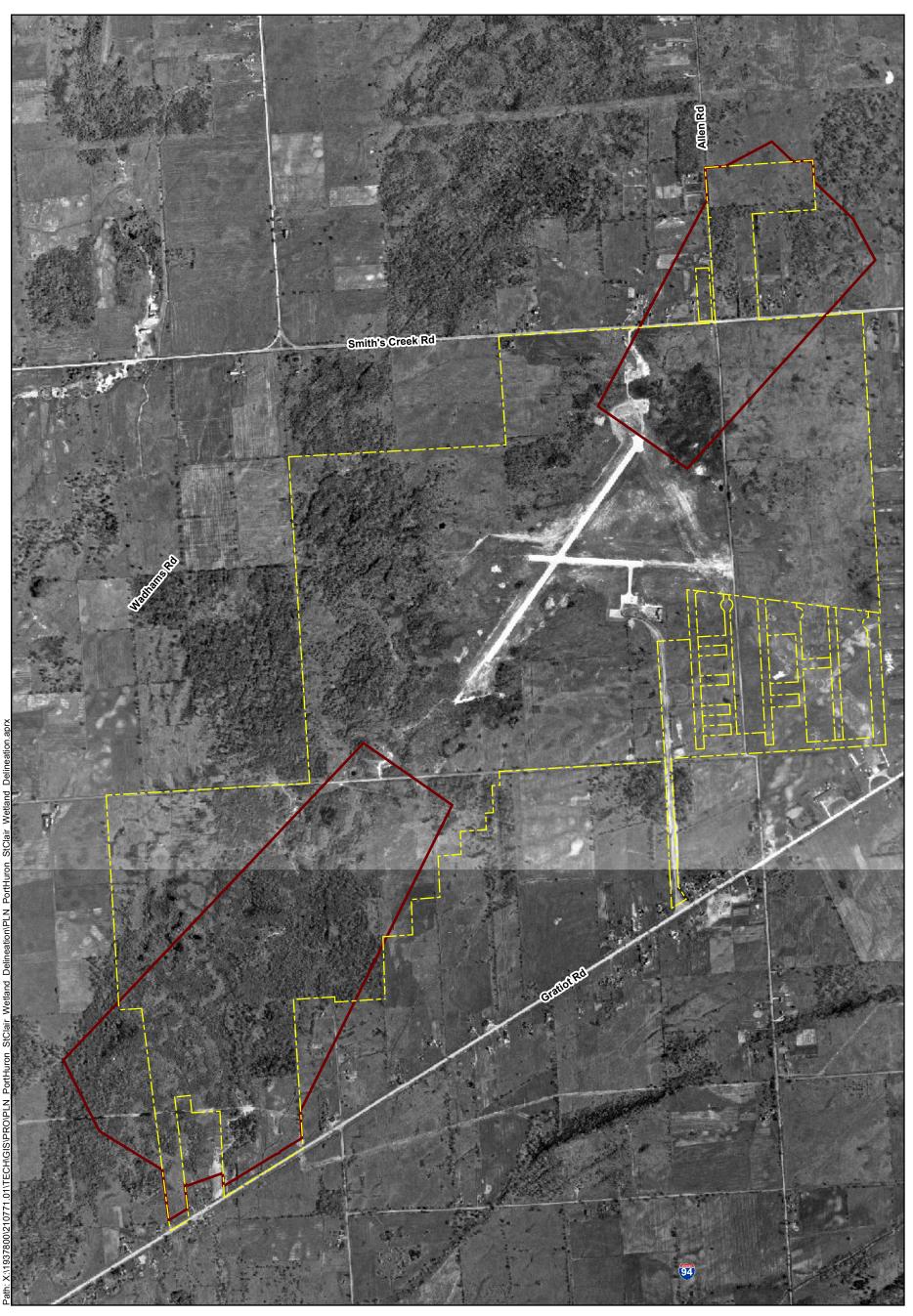
Climatological Data for PORT HURON, MI - September 2023

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2023-09-01	75	57	66.0	26	16	0.00	0.0	0
2023-09-02	78	61	69.5	30	20	0.00	0.0	0
2023-09-03	87	64	75.5	36	26	0.00	0.0	0
2023-09-04	90	71	80.5	41	31	0.00	0.0	0
2023-09-05	89	73	81.0	41	31	0.00	0.0	0
2023-09-06	81	73	77.0	37	27	0.38	0.0	0
2023-09-07	73	63	68.0	28	18	0.55	0.0	0
2023-09-08	69	60	64.5	25	15	0.00	0.0	0
2023-09-09	65	58	61.5	22	12	0.11	0.0	0
2023-09-10	70	60	65.0	25	15	0.00	0.0	0
2023-09-11	76	56	66.0	26	16	T	0.0	0
2023-09-12	67	57	62.0	22	12	1.52	0.0	0
2023-09-13	65	52	58.5	19	9	0.00	0.0	0
2023-09-14	72	51	61.5	22	12	0.00	0.0	0
2023-09-15	69	48	58.5	19	9	0.00	0.0	0
2023-09-16	72	53	62.5	23	13	0.00	0.0	0
2023-09-17	69	59	64.0	24	14	0.13	0.0	0
2023-09-18	66	55	60.5	21	11	0.01	0.0	0
2023-09-19	73	51	62.0	22	12	0.00	0.0	0
2023-09-20	73	56	64.5	25	15	0.00	0.0	0
2023-09-21	79	62	70.5	31	21	0.03	0.0	0
2023-09-22	75	63	69.0	29	19	0.00	0.0	0
2023-09-23	71	57	64.0	24	14	0.00	0.0	0
2023-09-24	72	56	64.0	24	14	0.00	0.0	0
2023-09-25	70	63	66.5	27	17	0.03	0.0	0
2023-09-26	66	61	63.5	24	14	0.15	0.0	0
2023-09-27	66	57	61.5	22	12	0.18	0.0	0
2023-09-28	62	56	59.0	19	9	0.13	0.0	0
2023-09-29	69	59	64.0	24	14	0.00	0.0	0
2023-09-30	79	57	68.0	28	18	0.00	0.0	0
Average Sum	72.9	59.0	66.0	786	486	3.22	0.0	0.0

Climatological Data for PORT HURON, MI - October 2023

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2023-10-01	79	58	68.5	29	19	0.00	0.0	0
2023-10-02	81	62	71.5	32	22	0.00	0.0	0
2023-10-03	84	62	73.0	33	23	0.00	0.0	0
2023-10-04	80	65	72.5	33	23	0.00	0.0	0
2023-10-05	71	63	67.0	27	17	0.29	0.0	0
2023-10-06	67	51	59.0	19	9	T	0.0	0
2023-10-07	55	48	51.5	12	2	T	0.0	0
2023-10-08	56	45	50.5	11	1	0.00	0.0	0
2023-10-09	55	39	47.0	7	0	0.00	0.0	0
2023-10-10	51	45	48.0	8	0	0.20	0.0	0
2023-10-11	55	45	50.0	10	0	T	0.0	0
2023-10-12	63	45	54.0	14	4	0.00	0.0	0
2023-10-13	54	48	51.0	11	1	0.07	0.0	0
2023-10-14	56	49	52.5	13	3	0.05	0.0	0
2023-10-15	54	47	50.5	11	1	0.43	0.0	0
2023-10-16	53	47	50.0	10	0	0.41	0.0	0
2023-10-17	54	45	49.5	10	0	0.00	0.0	0
2023-10-18	60	45	52.5	13	3	0.00	0.0	0
2023-10-19	61	50	55.5	16	6	0.14	0.0	0
2023-10-20	57	51	54.0	14	4	0.23	0.0	0
2023-10-21	51	46	48.5	9	0	0.00	0.0	0
2023-10-22	54	43	48.5	9	0	0.00	0.0	0
2023-10-23	54	36	45.0	5	0	0.00	0.0	0
2023-10-24	71	51	61.0	21	11	0.00	0.0	0
2023-10-25	68	57	62.5	23	13	0.50	0.0	0
2023-10-26	68	57	62.5	23	13	0.21	0.0	0
2023-10-27	M	M	М	М	М	М	М	М
2023-10-28	М	М	М	М	М	М	М	М
2023-10-29	M	M	М	М	М	М	М	М
2023-10-30	М	М	М	М	М	М	М	М
2023-10-31	М	M	М	М	М	М	М	М
Average Sum	62.0	50.0	56.0	423	175	2.53	0.0	0.0





Historical Aerial Imagery St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

1,000

2,000

500

LEGEND

Airport Property Boundary Project Area of Interest (AOI)

IMAGE DATE: 1951

Image Source: USGS Earth Explorer (https://earthexplorer.usgs.gov/)

Project Location



Historical Aerial Imagery St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

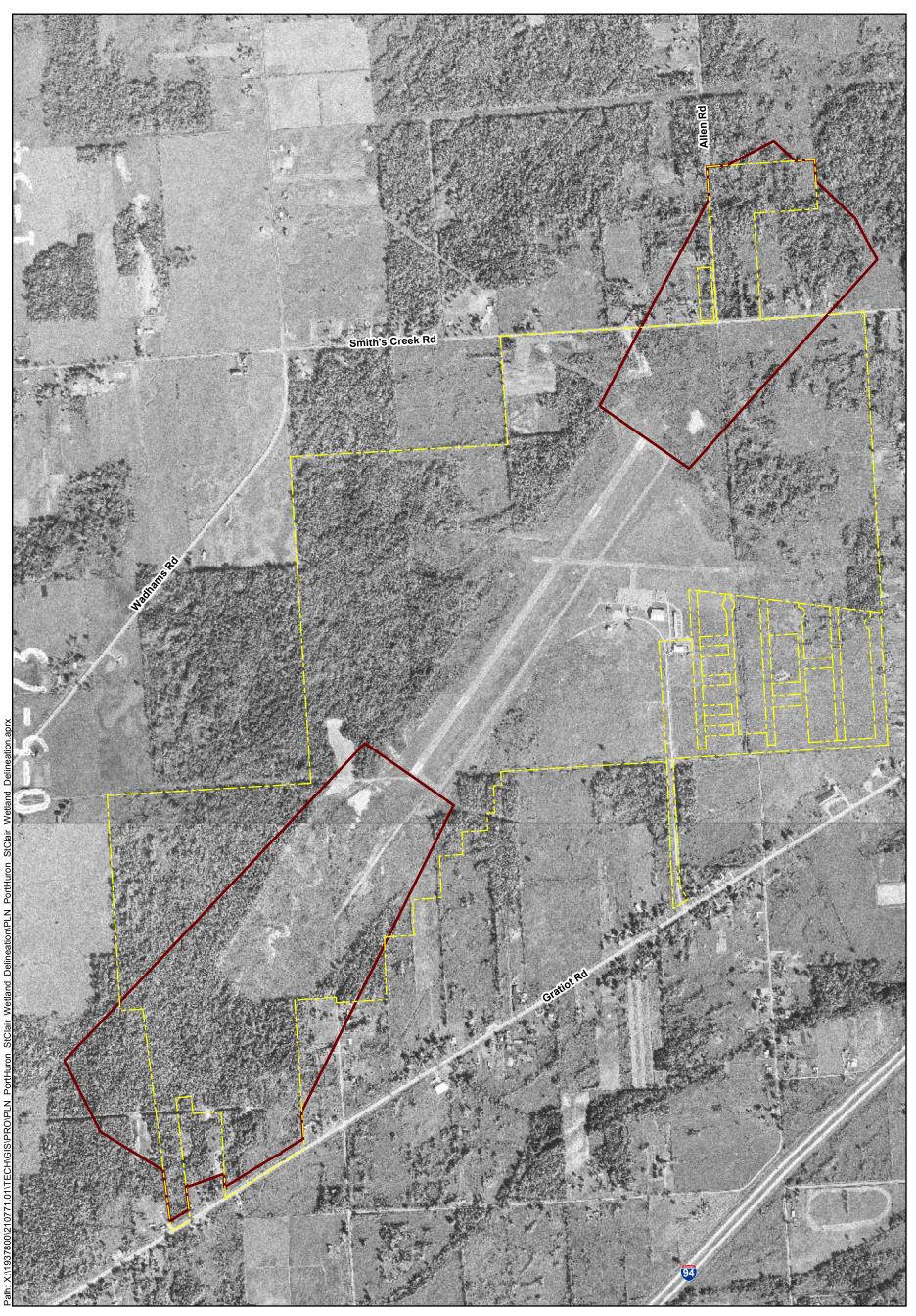
LEGEND

Airport Property Boundary Project Area of Interest (AOI)

IMAGE DATE: 1967

Image Source: USGS Earth Explorer (https://earthexplorer.usgs.gov/)

Project Location



Historical Aerial Imagery

St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

1,000

2,000

500

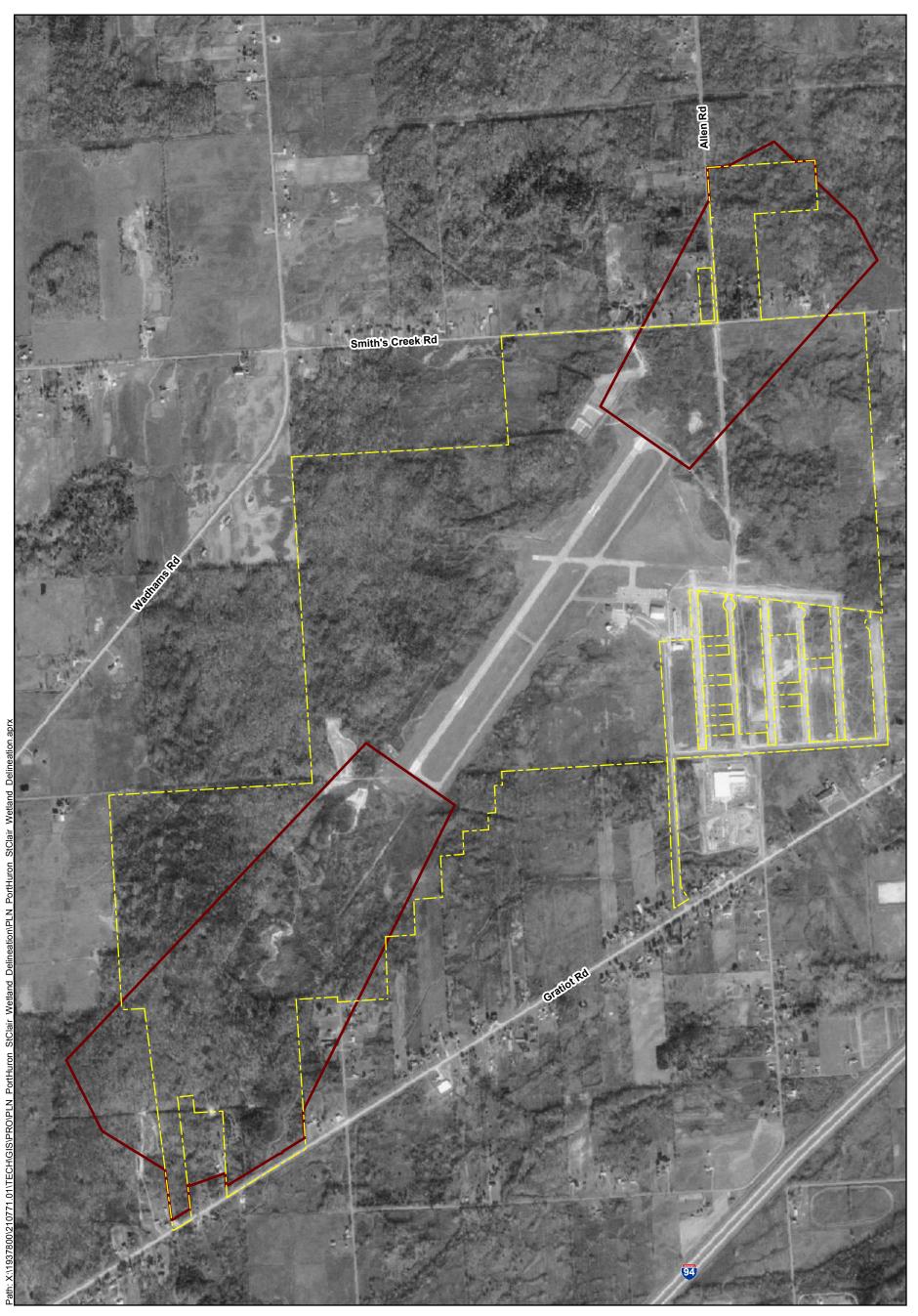
LEGEND

Airport Property BoundaryProject Area of Interest (AOI)

IMAGE DATE: 1973

Image Source:
USGS Earth Explorer
(https://earthexplorer.usgs.gov/)

Project Location



Historical Aerial Imagery St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

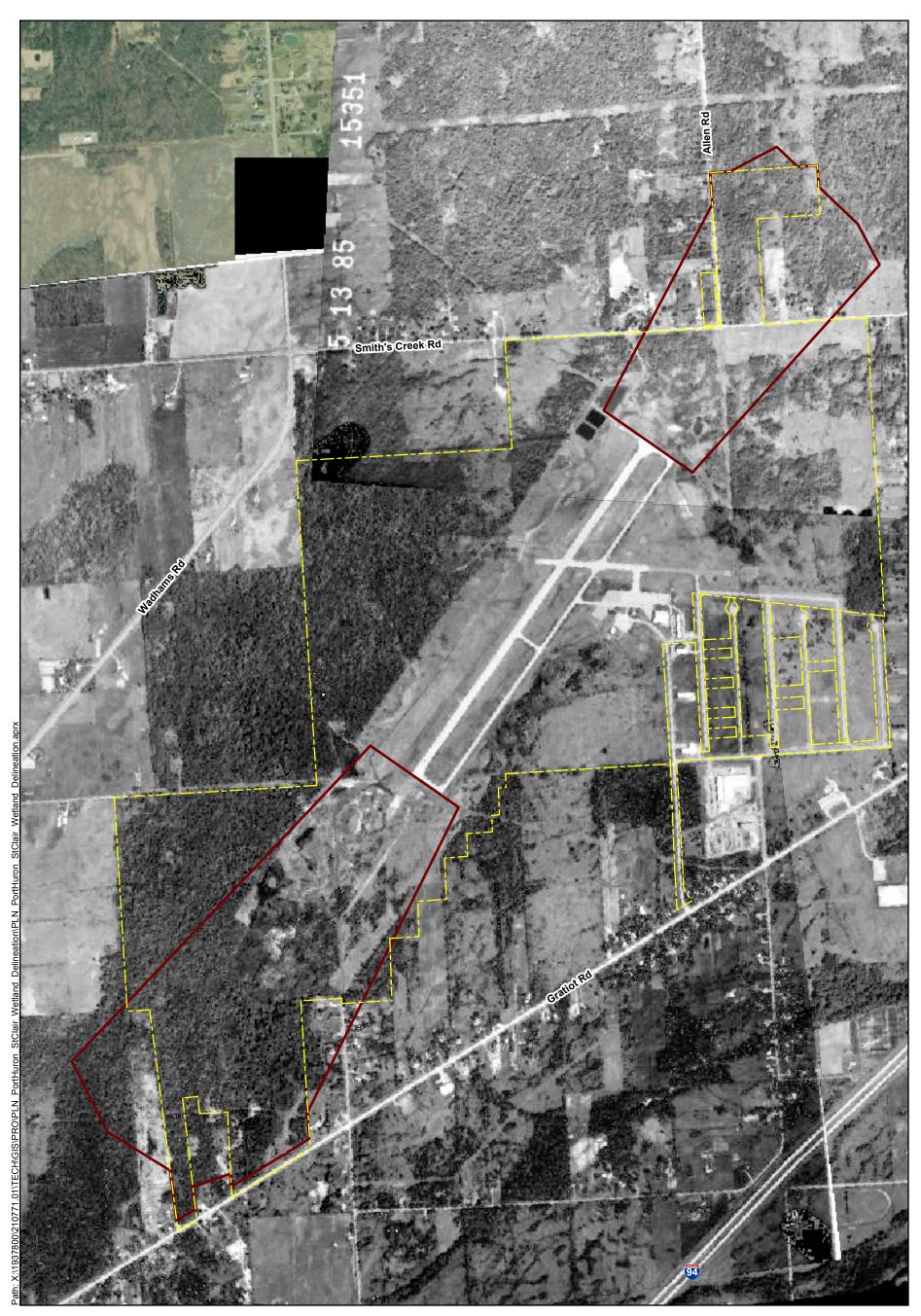
LEGEND

Airport Property Boundary Project Area of Interest (AOI)

IMAGE DATE: 1978

Image Source: USGS Earth Explorer (https://earthexplorer.usgs.gov/)

Project Location



Historical Aerial Imagery

St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

LEGEND

Airport Property BoundaryProject Area of Interest (AOI)

IMAGE DATE: 1985

Image Source:

Wayne State University Library Systems Digitial Collections, St Clair Count Aerials 1985 (https://wayne.contentdm.oclc.org /digital/collection/dte-aerial)

Project Location



Historical Aerial Imagery

St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

LEGEND

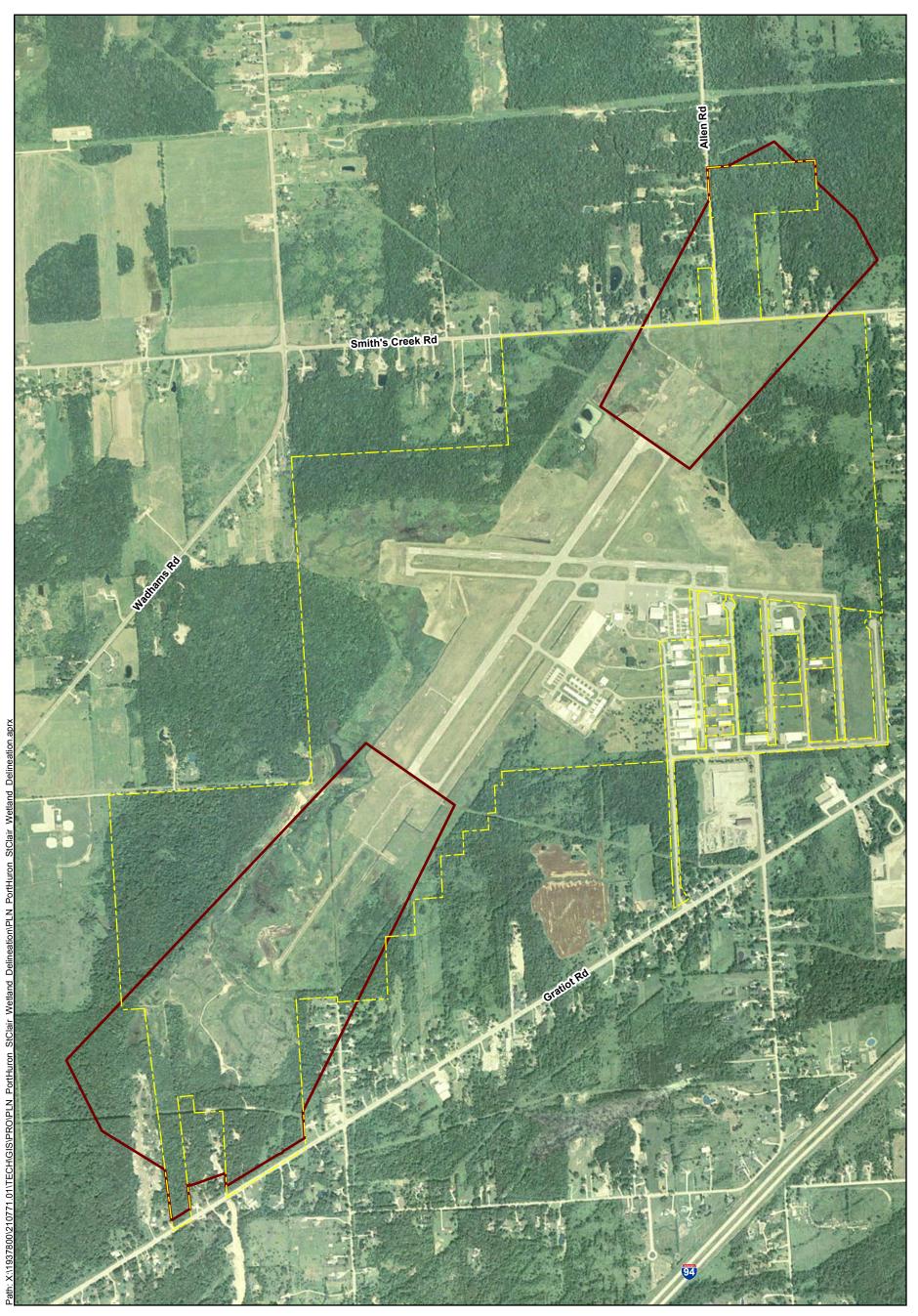
--- Airport Property Boundary
Project Area of Interest (AOI)

IMAGE DATE: 1998

Image Source:

Michigan NAPP Imagery (https://imagery.michigan.gov/ server/services/Michigan_NAPP_1998/ ImageServer)

Project Location



Historical Aerial Imagery St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

1,000

500

2,000

LEGEND

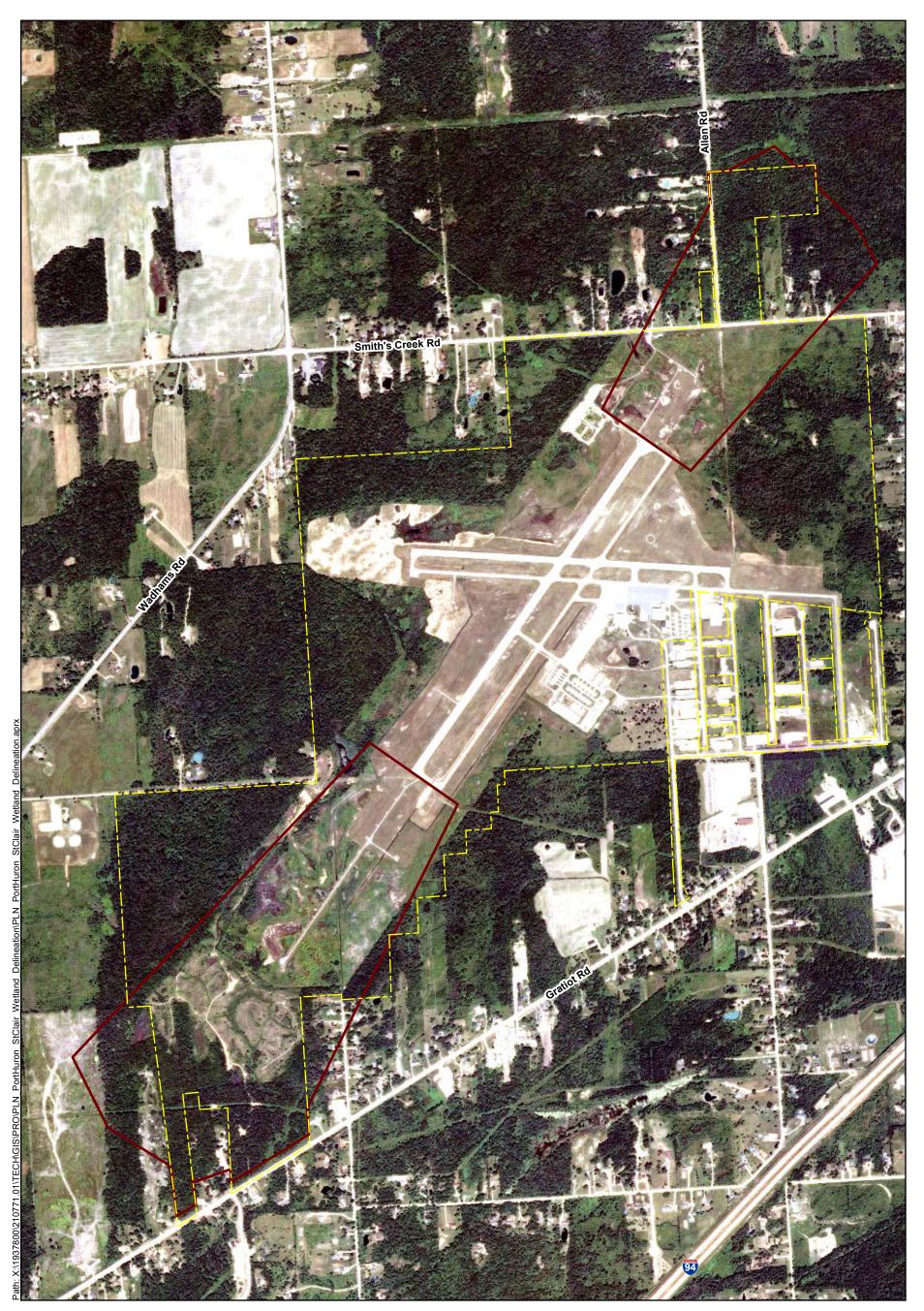
Airport Property Boundary Project Area of Interest (AOI)

IMAGE DATE: 2006

Image Source:

Michigan NAIP Imagery (https://imagery.michigan.gov/ server/services/Michigan_NAIP_2006/ ImageServer)

Project Location



St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

LEGEND

Airport Property BoundaryProject Area of Interest (AOI)

IMAGE DATE: 2010

Image Source:

Michigan NAIP Imagery (https://imagery.michigan.gov/ server/services/Michigan_NAIP_2010/ ImageServer)

Project Location



St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

LEGEND

Airport Property BoundaryProject Area of Interest (AOI)

IMAGE DATE: 2012

Image Source:

Michigan NAIP Imagery (https://imagery.michigan.gov/ server/services/Michigan_NAIP_2012/ ImageServer)

Project Location



St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

LEGEND

--- Airport Property Boundary
Project Area of Interest (AOI)

IMAGE DATE: 2016

Image Source:

Michigan NAIP Imagery (https://imagery.michigan.gov/ server/services/Michigan_NAIP_2016/ ImageServer)

Project Location



St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

LEGEND

--- Airport Property Boundary
Project Area of Interest (AOI)

IMAGE DATE: 2018

Image Source:

Michigan NAIP Imagery (https://imagery.michigan.gov/ server/services/Michigan_NAIP_2018/ ImageServer)

Project Location



St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

LEGEND

Airport Property BoundaryProject Area of Interest (AOI)

IMAGE DATE: 2020

Image Source:

Michigan NAIP Imagery (https://imagery.michigan.gov/ server/services/Michigan_NAIP_2020/ ImageServer)

Project Location



Historical Aerial Imagery St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

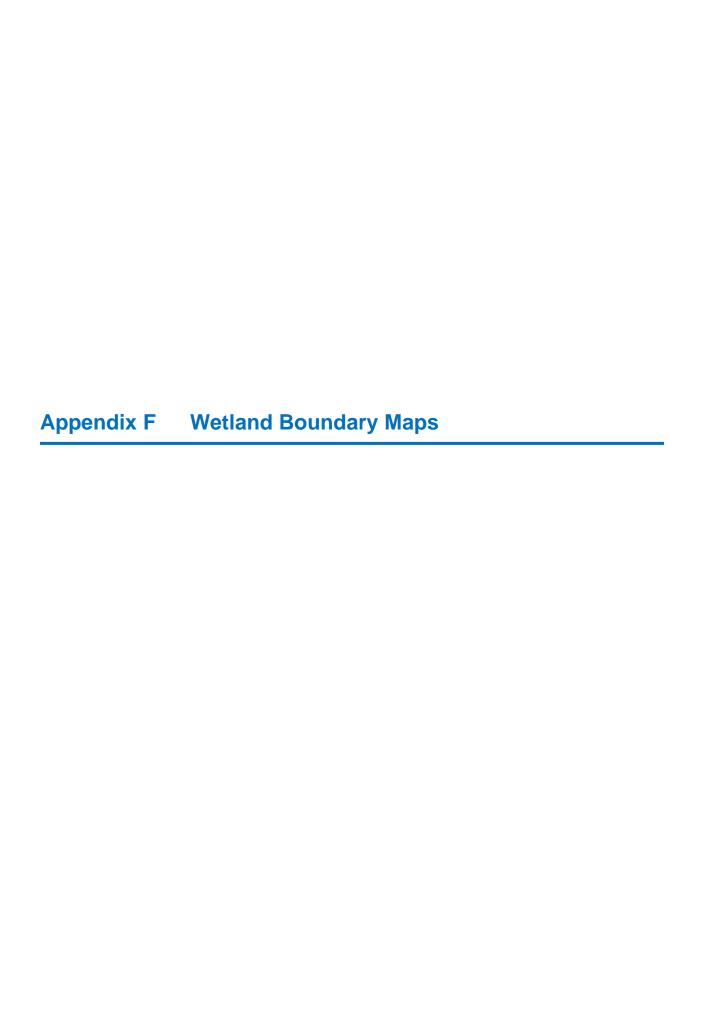
LEGEND

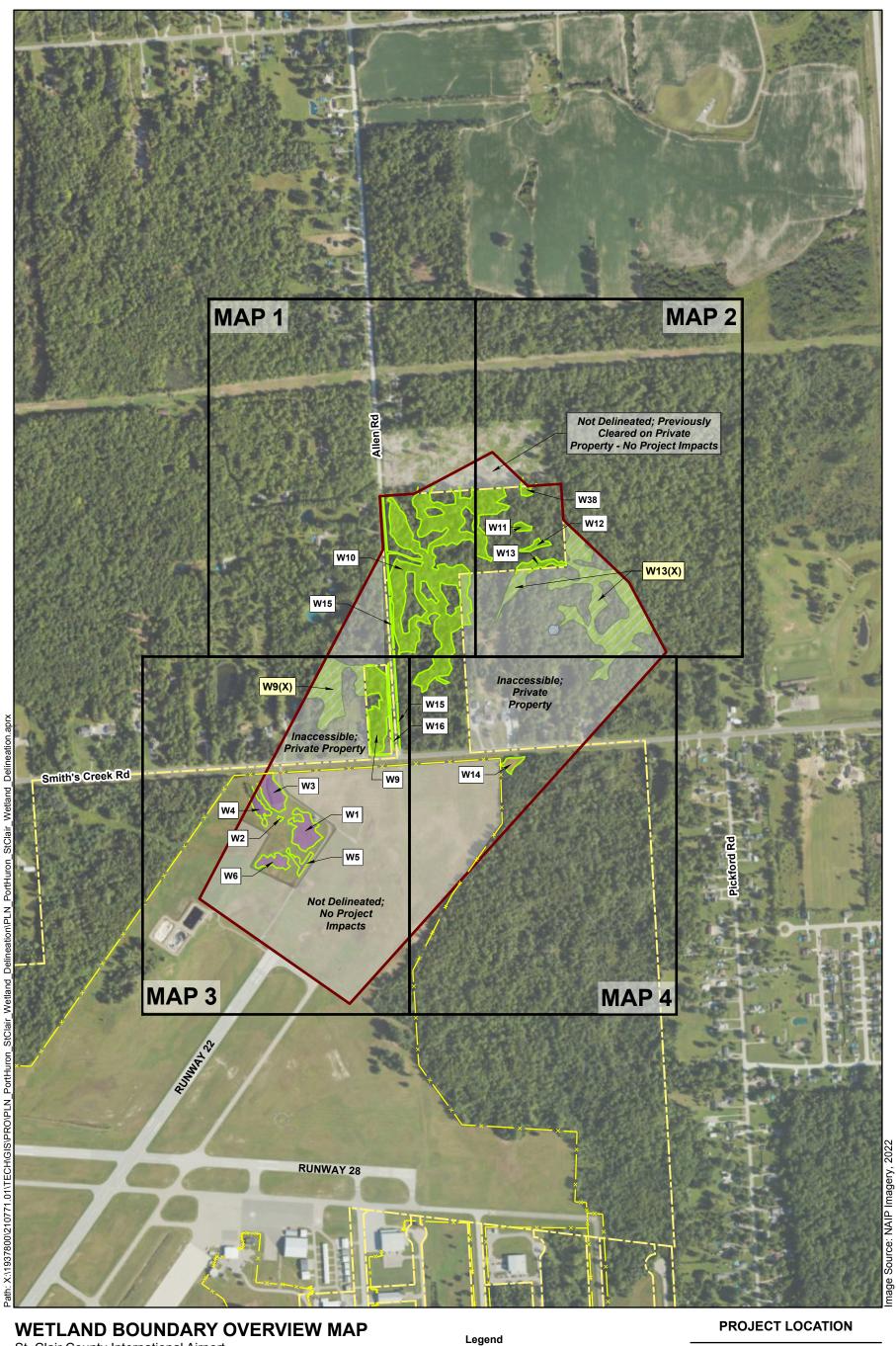
Airport Property Boundary Project Area of Interest (AOI)

IMAGE DATE: 2022

Image Source: ESRI, Inc Imagery (https://services.arcgisonline.com/ ArcGIS/rest/services/World_Imagery/ MapServer)

Project Location





St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

Runway 22 End

900 1,200 300 600

Project Area of Interest (AOI)

Map Sheet Existing Fence

---- Two-track

Area not Delineated Airport Property Boundary --- Pipeline Corridor

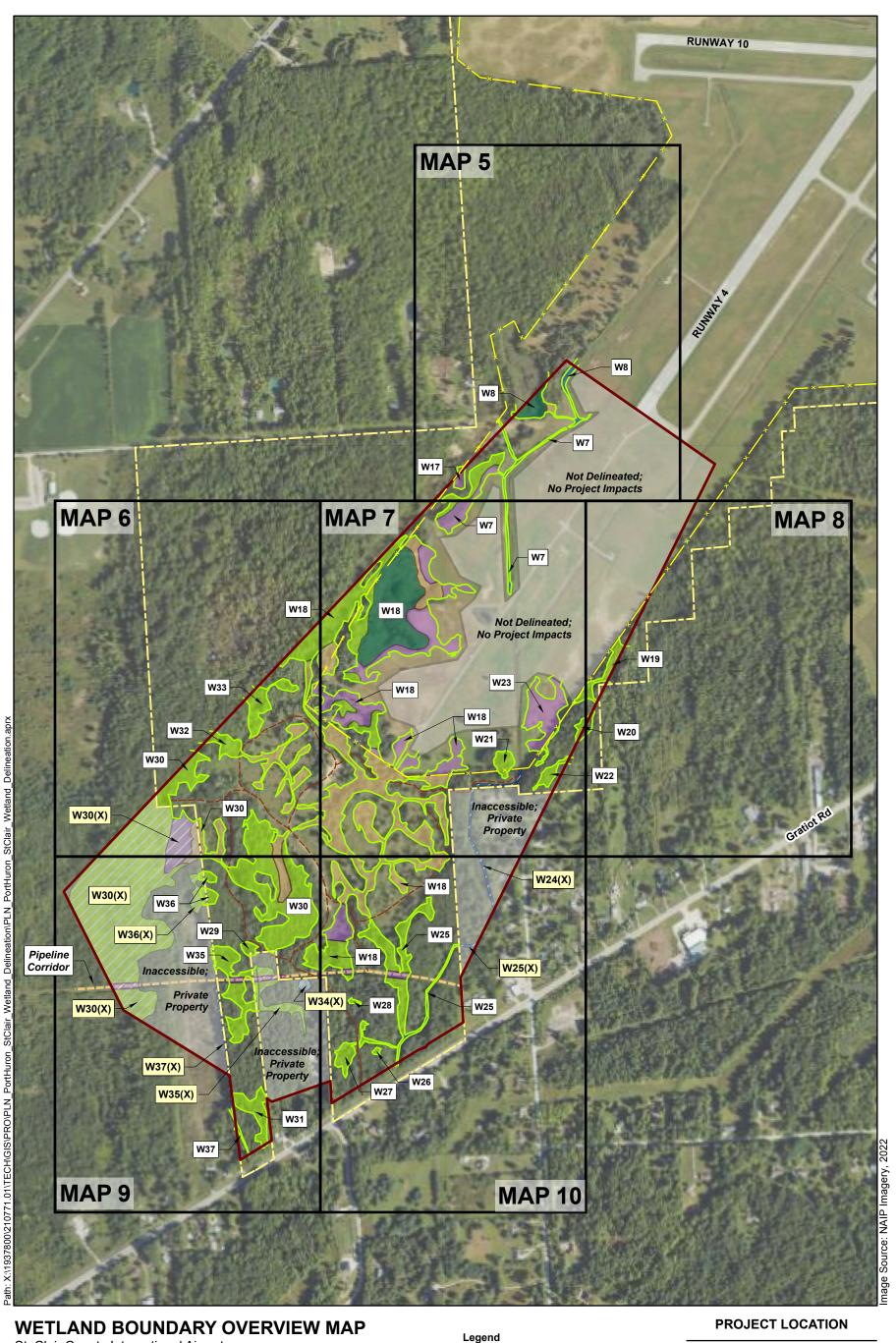
Delineated Wetland

Delineated Wetland Type Emergent (PEM) Forested (PFO) Scrub-Shrub (PSS) Shallow Marsh (PUB) Pond (PUBHx)

Ditch (RUBx)

Estimated Wetland Type

Emergent (PEM) Forested (PFO) Scrub-Shrub (PSS) Pond (PUBHx) Ditch (RUBx)



St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

Runway 4 End

900 1,200 300 600

Project Area of Interest (AOI) Map Sheet

Area not Delineated Existing Fence Airport Property Boundary

---- Two-track

--- Pipeline Corridor

Delineated Wetland **Delineated Wetland Type** Emergent (PEM) Forested (PFO)

Ditch (RUBx)

Scrub-Shrub (PSS) Shallow Marsh (PUB) Pond (PUBHx)

Estimated Wetland Type

Emergent (PEM) Forested (PFO) Scrub-Shrub (PSS) Pond (PUBHx) Ditch (RUBx)

DELINEATED WETLANDS SUMMARY TABLE

	DELINEATED WETEANDS SOMMANT TABLE								
Wetland No	Area (acres)	NWI Type	Type Description						
1	0.973	PEM	Emergent						
2	0.023	PEM	Emergent						
3	0.802	PEM	Emergent						
4	0.320	PEM	Emergent						
5	0.219	PEM	Emergent						
6	0.448	PEM	Emergent						
7	2.527	PEM/PFO/RUBx	Emergent/Forested/Ditch (Excavated)						
8	1.176	PEM/PSS/PUB/ RUBx	Emergent/Scrub-Shrub/Shallow Marsh/Ditch (Excavated)						
9	1.799	PFO	Forested						
10	11.507	PEM/PFO	Emergent/Forested						
11	0.144	PFO	Forested						
12	0.188	PFO	Forested						
13	0.353	PFO	Forested						
14	0.233	PSS	Scrub-Shrub						
15	0.168	PEM	Emergent						
16	0.085	PEM	Emergent						
17	0.198	PEM	Emergent						
18	30.352	PEM/PSS/PFO/ PUB	Emergent/Scrub-Shrub/Forested/ Shallow Marsh						
19	0.730	PFO	Forested						
20	0.182	PFO	Forested						
21	0.484	PFO	Forested						
22	0.384	PFO	Forested						
23	2.249	PEM/PFO	Emergent/Forested						
25	2.976	PEM/PFO/RUBx	Emergent/Forested/Ditch (Excavated)						
26	0.050	PFO	Forested						
27	0.518	PFO	Forested						
28	0.048	PFO	Forested						
29	0.203	PFO	Forested						
30	9.307	PSS/PFO	Scrub-Shrub/Forested						
31	1.001	PFO	Forested						
32	2.155	PSS/PFO	Scrub-Shrub/Forested						
33	1.133	PFO	Forested						
35	2.236	PEM/PFO	Emergent/Forested						
36	0.469	PFO	Forested						
37	0.094	RUBx	Ditch (Excavated)						
38	0.151	PFO	Forested						
Total	75.885								

ESTIMATED WETLANDS SUMMARY TABLE

Wetland No	Area (acres)	NWI Type	Type Description
9(X)	2.489	PFO	Forested
13(X)	6.912	PFO/PUBHx	Forested/Shallow Marsh (Excavated)
24(X)	0.435	RUBx	Ditch (Excavated)
25F(X)	0.050	RUBx	Ditch (Excavated)
30(X)	17.886	PEM/PSS/PFO	Emergent/Scrub-Shrub/Forested
34(X)	0.151	PUBHx	Shallow Marsh (Excavated)
35(X)	1.106	PEM/PFO	Emergent/Forested
36(X)	0.394	PFO	Forested
37(X)	0.240	RUBx	Ditch (Excavated)
Total	29.664		

DELINEATED WETLANDS BY TYPE TABLE

NWI Type	Type Description	Area (acres)
PEM	Emergent	13.963
PFO	Forested	39.478
PSS	Scrub-Shrub	14.652
PUB	Shallow Marsh	6.505
RUBx	Ditch (Excavated)	1.287
Total		75.885

ESTIMATED WETLANDS BY TYPE TABLE

NWI Type	Type Description	Area (acres)				
PEM	Emergent	1.688				
PFO	Forested	26.546				
PSS	Scrub-Shrub	0.441				
PUBHx	Pond (Excavated)	0.264				
RUBx	Ditch (Excavated)	0.725				
Total		29.664				

STREAM SUMMARY TABLE

_				
Stream	NWI Type	Type Description	Notes	Length (ft)
7C	RUBx	Ditch (Excavated)		1,747.782
8D	RUBx	Ditch (Excavated)		535.578
24(X)	RUBx	Ditch (Excavated)		1,374.130
25F	RUBx	Ditch (Excavated)	Moak Drain	1,062.035
25F(X)	RUBx	Ditch (Excavated)	Moak Drain	133.394
37	RUBx	Ditch (Excavated)		273.725
37(X)	RUBx	Ditch (Excavated)		1,035.998

WETLAND SUMMARY TABLES

St. Clair County International Airport Runway 4/22 Obstruction Clearing Environmental Assessment

Note: NWI = National Wetland Inventory

PROJECT LOCATION

T6N, R16E Sections 25, 26, 35, and 36
T5N, R16E Sections 2 and 3
Kimball and St. Clair Townships
St. Clair County, MI
LRR Subregion: L
USACE Regional Supplement: NC/NE

Area of Interest: 442.74 acres USGS Quad: Smiths Creek

Field work: Aug. 16 - 23, Oct. 3 - 7, 2022 June. 6 - 14, Sept. 25 - Oct. 4, 2023



St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

MAP 1 **RWY 22 END**



- Data Sources
 1. Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG)
- GIS Data Portal (https://contours.semcog.org/)
 2. Streams, Michigan GIS Open Data,
 (https://gis-michigan.opendata.arcgis.com/)
- 3. Image Source: NAIP Imagery (https://gis.apfo.usda.gov/arcgis/ services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Project Area of Interest (AOI)

Area not Delineated Flow Direction

Photo Location **Data Point Type**

Upland ▲ Wetland

Delineated Wetland Type

Emergent (PEM) Forested (PFO)

Scrub-Shrub (PSS) Shallow Marsh (PUB) Pond (PUBHx)

Ditch (RUBx)

U Upland

Legend Delineated Wetland

--- Stream -x- Existing Fence Airport Property Boundary --- Pipeline Corridor

--- Two-track **Contour Type**

Index Index Depression

Intermediate Intermediate Depression

2 MAP SHEET

Estimated Wetland Type

Emergent (PEM)

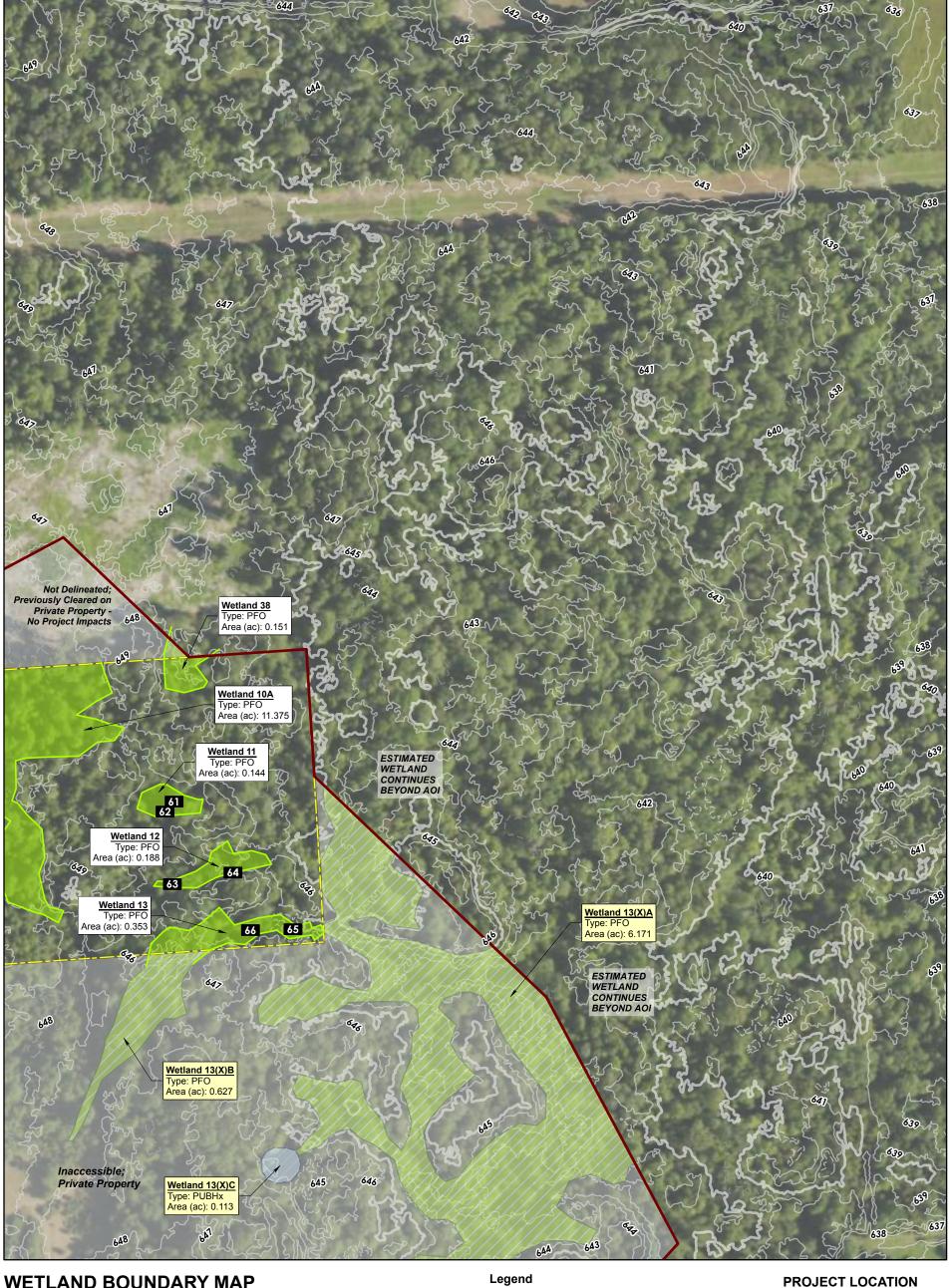
Forested (PFO)

Scrub-Shrub (PSS)

Pond (PUBHx)

Ditch (RUBx)

PROJECT LOCATION



St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

MAP 2 **RWY 22 END**



- Data Sources
 1. Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG)
- GIS Data Portal (https://contours.semcog.org/)
 2. Streams, Michigan GIS Open Data,
 (https://gis-michigan.opendata.arcgis.com/)
- 3. Image Source: NAIP Imagery (https://gis.apfo.usda.gov/arcgis/ services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Project Area of Interest (AOI)

Area not Delineated Flow Direction

Photo Location **Data Point Type**

Upland \triangle ▲ Wetland

Delineated Wetland Type

Emergent (PEM) Forested (PFO)

Scrub-Shrub (PSS) Shallow Marsh (PUB)

Pond (PUBHx) Ditch (RUBx)

-x- Existing Fence Airport Property Boundary --- Pipeline Corridor

- -- Two-track

--- Stream

Delineated Wetland

Contour Type Index Index Depression

Intermediate Intermediate Depression

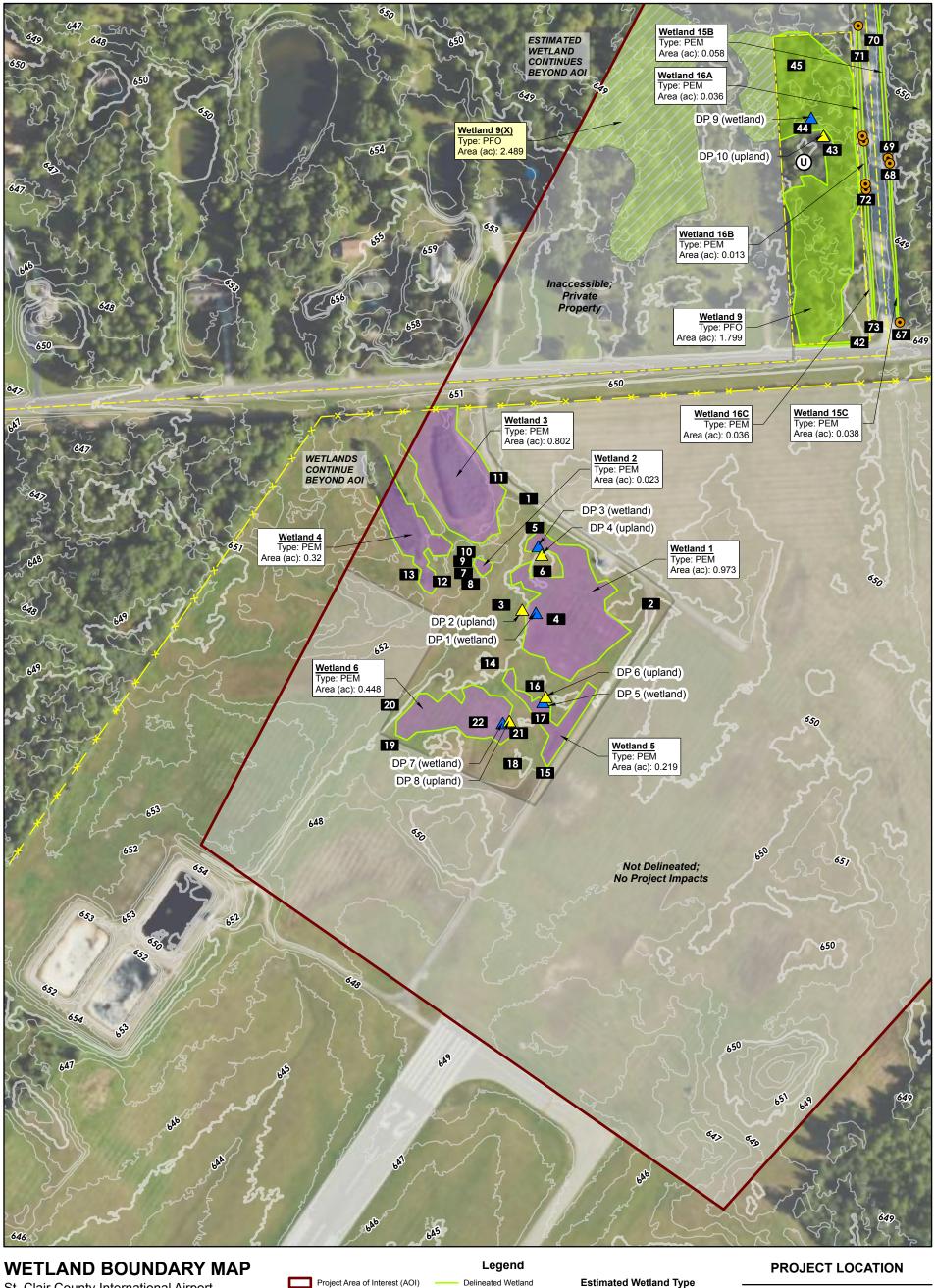
U Upland

Estimated Wetland Type





MAP SHEET INDEX



St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

MAP 3 **RWY 22 END**



Data Sources Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG)

GIS Data Portal (https://contours.semcog.org/)
2. Streams, Michigan GIS Open Data, (https://gis-michigan.opendata.arcgis.com/) Image Source: NAIP Imagery (https://gis.apfo.usda.gov/arcgis/ services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Project Area of Interest (AOI) Area not Delineated

Photo Location **Data Point Type**

Flow Direction

Upland Wetland

Delineated Wetland Type

Emergent (PEM) Forested (PFO) Scrub-Shrub (PSS)

Shallow Marsh (PUB) Pond (PUBHx) Ditch (RUBx)

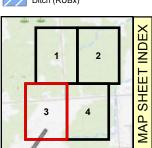
--- Stream Existing Fence Airport Property Boundary --- Pipeline Corridor - - Two-track **Contour Type** Index

Index Depression Intermediate Intermediate Depression

U Upland

Estimated Wetland Type

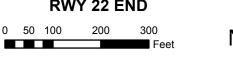
Emergent (PEM) Forested (PFO) Scrub-Shrub (PSS) Pond (PUBHx) Ditch (RUBx)





St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

MAP 4 **RWY 22 END**



- Data Sources
 1. Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG)
- GIS Data Portal (https://contours.semcog.org/)
 2. Streams, Michigan GIS Open Data,
 (https://gis-michigan.opendata.arcgis.com/)
- 3. Image Source: NAIP Imagery (https://gis.apfo.usda.gov/arcgis/ services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Project Area of Interest (AOI)

Area not Delineated --- Stream Flow Direction Existing Fence Airport Property Boundary

Photo Location **Data Point Type**

Upland ▲ Wetland

Delineated Wetland Type Emergent (PEM)

Forested (PFO) Scrub-Shrub (PSS)

Shallow Marsh (PUB) Pond (PUBHx) Ditch (RUBx)

--- Two-track **Contour Type**

Index Index Depression Intermediate

Pipeline Corridor

Delineated Wetland

Intermediate Depression U Upland

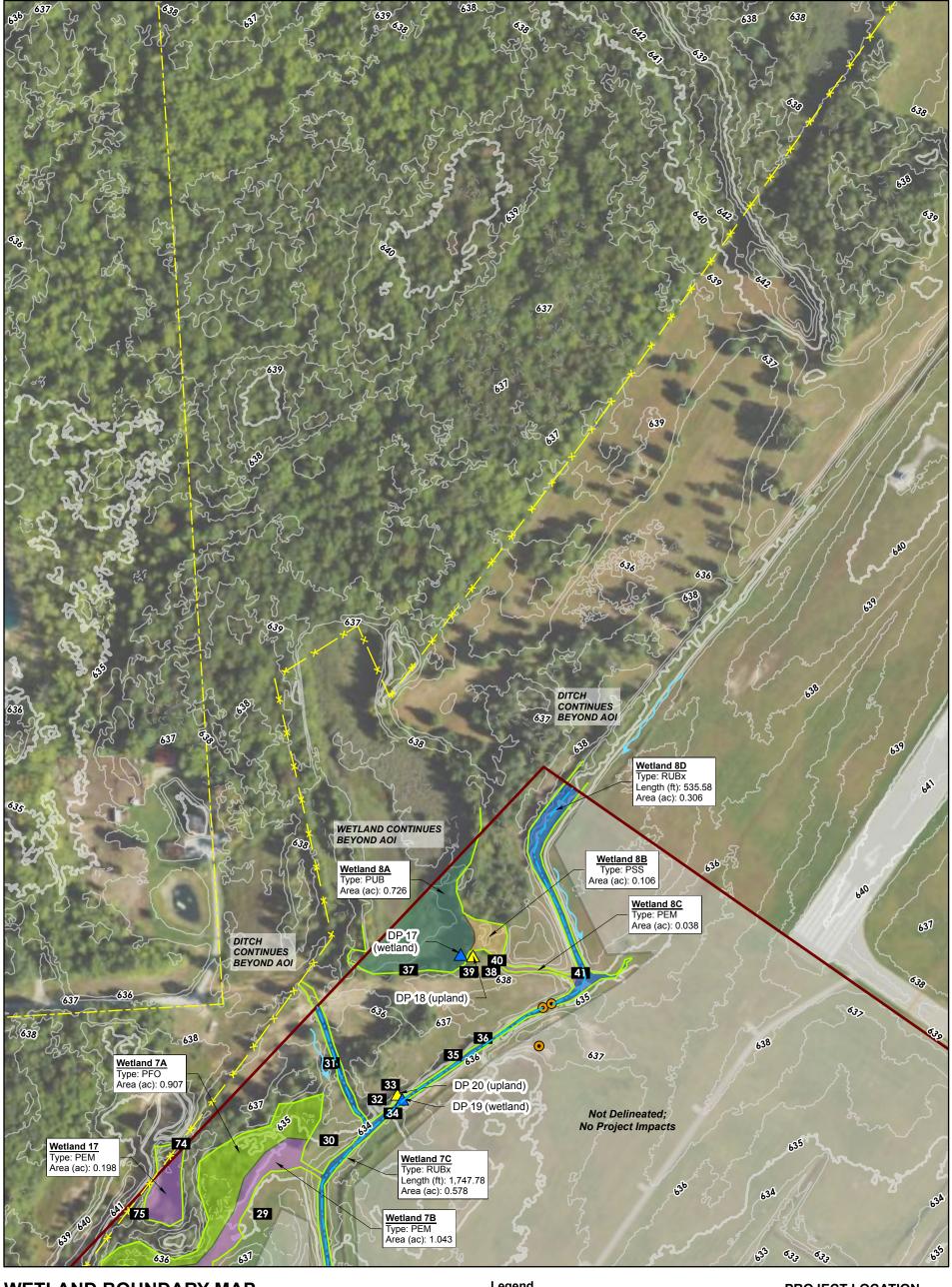
Estimated Wetland Type





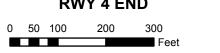
MAP SHEET

PROJECT LOCATION



St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

MAP 5 **RWY 4 END**



Data Sources

- Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG)
- GIS Data Portal (https://contours.semcog.org/)
 2. Streams, Michigan GIS Open Data,
 (https://gis-michigan.opendata.arcgis.com/) 3. Image Source: NAIP Imagery (https://gis.apfo.usda.gov/arcgis/ services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Legend Delineated Wetland

--- Stream -x- Existing Fence --- Pipeline Corridor

Emergent (PEM)

Project Area of Interest (AOI)

Area not Delineated

Flow Direction

Photo Location

Data Point Type

Upland

▲ Wetland

Forested (PFO) Scrub-Shrub (PSS)

> Shallow Marsh (PUB) Pond (PUBHx) Ditch (RUBx)

Contour Type Delineated Wetland Type Index Intermediate Intermediate Depression

U Upland

Scrub-Shrub (PSS) Airport Property Boundary Pond (PUBHx)

--- Two-track Index Depression

SHEET

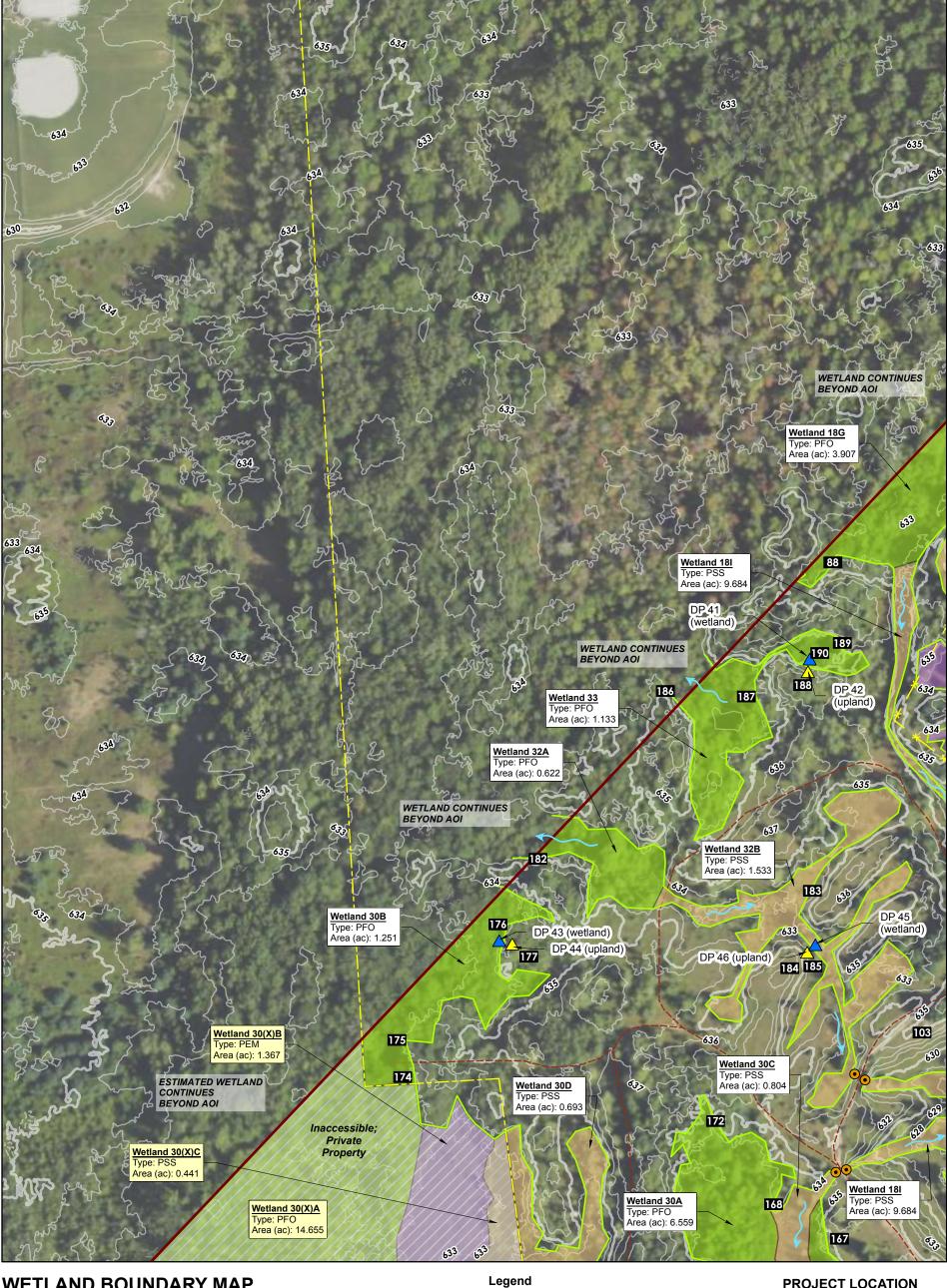
Estimated Wetland Type

Emergent (PEM)

Forested (PFO)

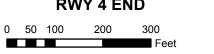
Ditch (RUBx)

PROJECT LOCATION



St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

MAP 6 **RWY 4 END**



Data Sources

- Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG)
- GIS Data Portal (https://contours.semcog.org/)
 2. Streams, Michigan GIS Open Data,
 (https://gis-michigan.opendata.arcgis.com/)
- Image Source: NAIP Imagery (https://gis.apfo.usda.gov/arcgis/ services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Project Area of Interest (AOI)

Area not Delineated Flow Direction

Photo Location **Data Point Type**

Upland \triangle

Wetland **Delineated Wetland Type**

Emergent (PEM) Forested (PFO)

Scrub-Shrub (PSS) Shallow Marsh (PUB) Pond (PUBHx)

Ditch (RUBx)

Contour Type Index Index Depression Intermediate

U Upland

- -- Two-track

--- Stream

Existing Fence

--- Pipeline Corridor

Delineated Wetland

Airport Property Boundary

SHEET Intermediate Depression 9 10 MAP (

Estimated Wetland Type

Emergent (PEM)

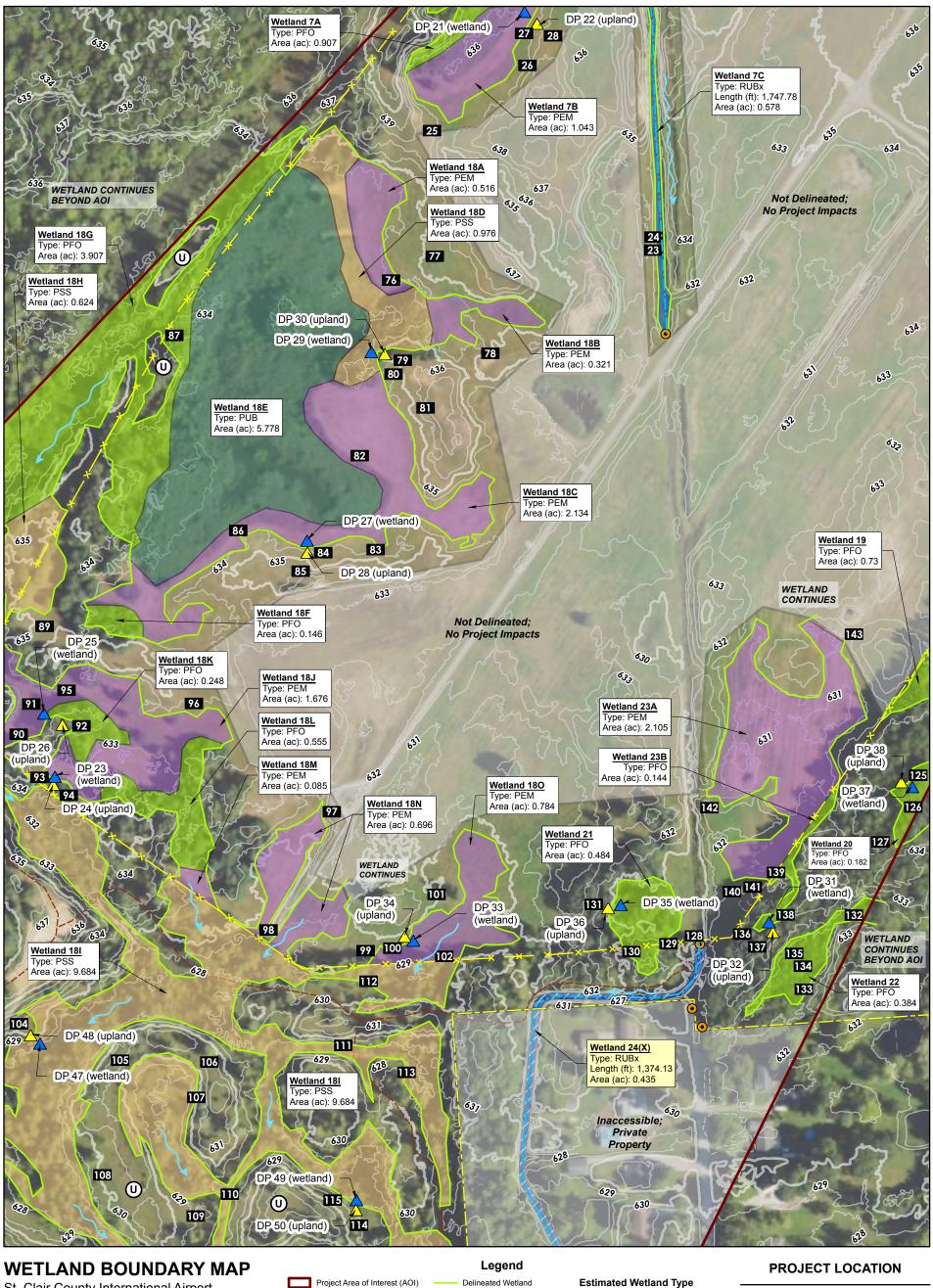
Forested (PFO)

Scrub-Shrub (PSS)

Pond (PUBHx)

Ditch (RUBx)

PROJECT LOCATION



St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

MAP 7 **RWY 4 END** 0 50 100 200 300 Feet

Data Sources

- 1. Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG)
- GIS Data Portal (https://contours.semcog.org/)
 2. Streams, Michigan GIS Open Data, (https://gis-michigan.opendata.arcgis.com/)
- Image Source: NAIP Imagery (https://gis.apfo.usda.gov/arcgis/ services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Project Area of Interest (AOI)

Area not Delineated - Stream Flow Direction Existing Fence Photo Location Airport Property Boundary **Data Point Type** --- Pipeline Corridor \triangle

Upland - - Two-track Wetland **Delineated Wetland Type**

Emergent (PEM) Forested (PFO) Scrub-Shrub (PSS)

Shallow Marsh (PUB) Pond (PUBHx) Ditch (RUBx)

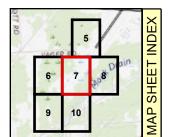
Contour Type Index Index Depression Intermediate Intermediate Depression

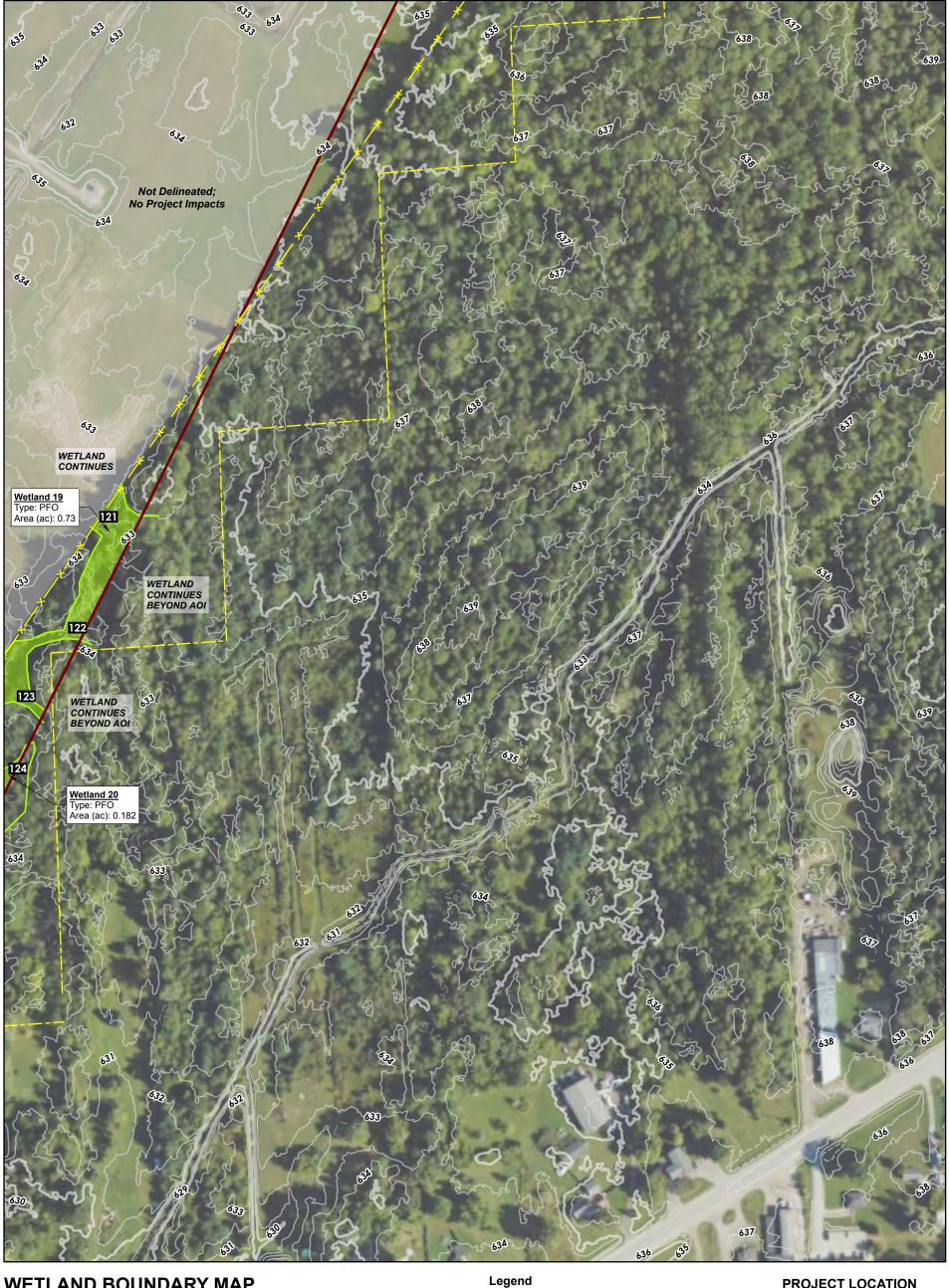
Upland

(U)

Estimated Wetland Type

Emergent (PEM) Forested (PFO) Scrub-Shrub (PSS) Pond (PUBHx) Ditch (RUBx)





St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

MAP 8 **RWY 4 END**



- Data Sources
 1. Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG)
- GIS Data Portal (https://contours.semcog.org/)
 2. Streams, Michigan GIS Open Data,
 (https://gis-michigan.opendata.arcgis.com/) 3. Image Source: NAIP Imagery (https://gis.apfo.usda.gov/arcgis/ services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Project Area of Interest (AOI)

Area not Delineated --- Stream Flow Direction —x— Existing Fence Photo Location Airport Property Boundary --- Pipeline Corridor

Data Point Type Upland

▲ Wetland

Delineated Wetland Type

Emergent (PEM) Forested (PFO)

> Shallow Marsh (PUB) Pond (PUBHx)

Ditch (RUBx)

Contour Type Index

Index Depression Intermediate Scrub-Shrub (PSS) Intermediate Depression

U Upland

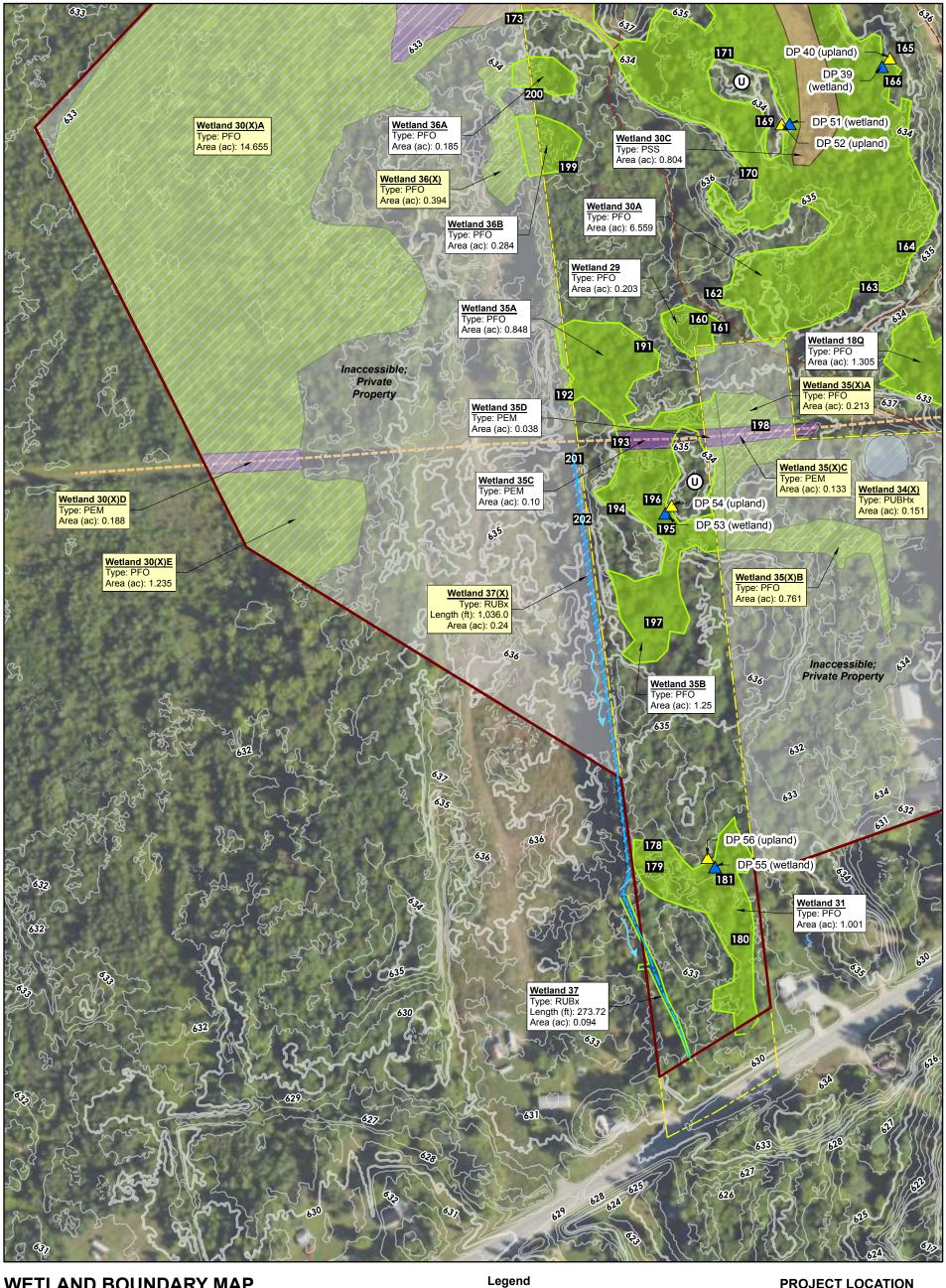
--- Two-track

Delineated Wetland **Estimated Wetland Type**

Emergent (PEM) Forested (PFO) Scrub-Shrub (PSS) Pond (PUBHx) Ditch (RUBx)

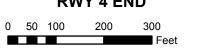
SHEET INDEX

PROJECT LOCATION



St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

MAP 9 **RWY 4 END**



- **Data Sources** Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG)
- GIS Data Portal (https://contours.semcog.org/)
 2. Streams, Michigan GIS Open Data, (https://gis-michigan.opendata.arcgis.com/) Image Source: NAIP Imagery (https://gis.apfo.usda.gov/arcgis/ services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Project Area of Interest (AOI) Delineated Wetland

Area not Delineated --- Stream Flow Direction -x- Existing Fence

Photo Location

Data Point Type Upland

Wetland **Delineated Wetland Type**

Emergent (PEM) Forested (PFO)

> Scrub-Shrub (PSS) Shallow Marsh (PUB) Pond (PUBHx) Ditch (RUBx)

Contour Type

Index Index Depression Intermediate Intermediate Depression

U Upland

--- Pipeline Corridor

- - Two-track

Airport Property Boundary

SHE 10

Estimated Wetland Type

Emergent (PEM)

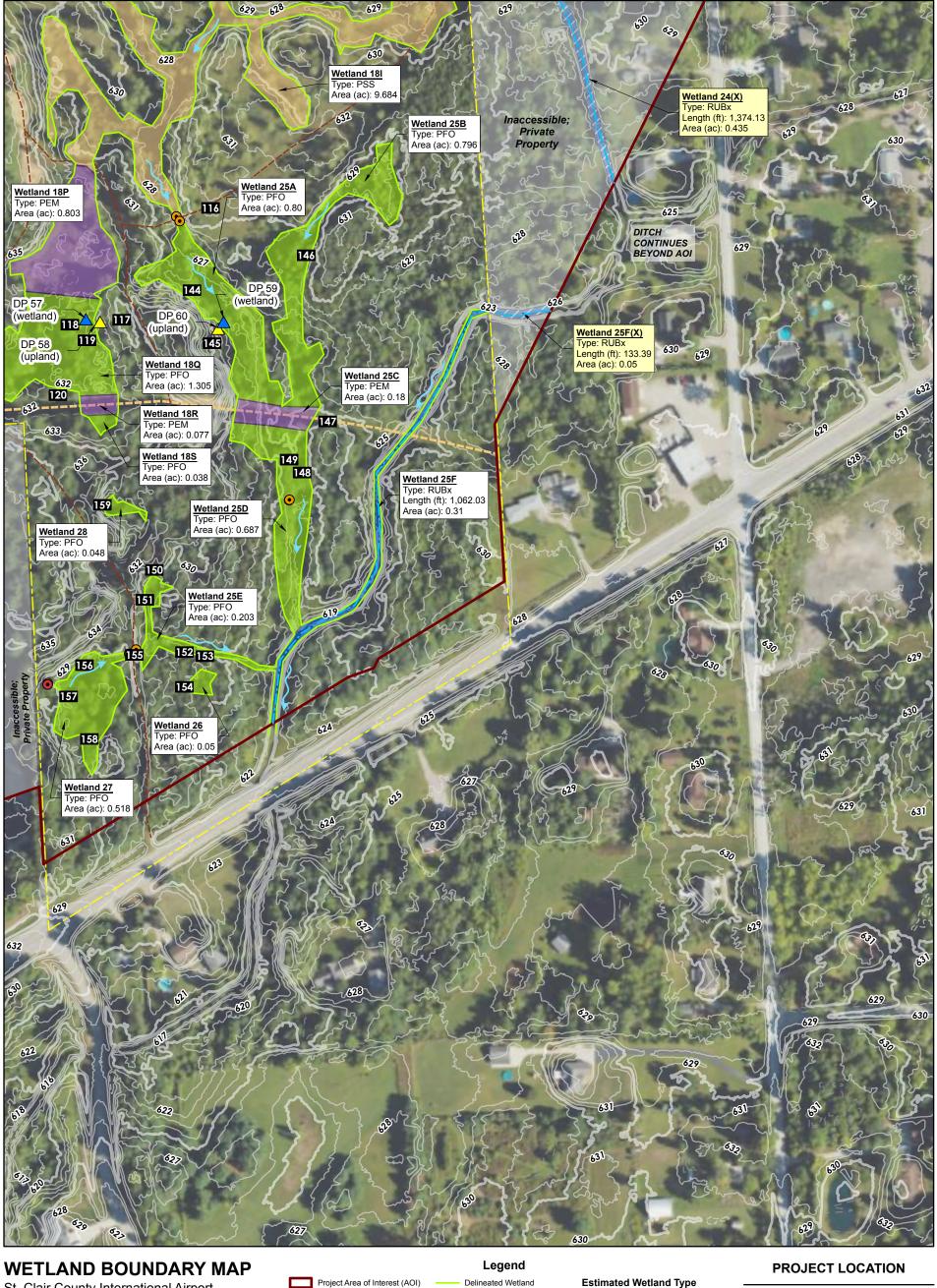
Forested (PFO)

Scrub-Shrub (PSS)

Pond (PUBHx)

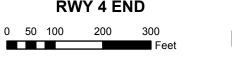
Ditch (RUBx)

PROJECT LOCATION



St. Clair County International Airport Runway 4/22 Obstruction Clearing **Environmental Assessment**

MAP 10 RWY 4 END



Data Sources

- 1. Contours, St. Clair County, 1-foot contour interval generated from 2017 LiDAR acquired by MiSAIL. Data obtained from Southeast Michigan Council of Governments (SEMCOG)
- GIS Data Portal (https://contours.semcog.org/)
 2. Streams, Michigan GIS Open Data,
 (https://gis-michigan.opendata.arcgis.com/) Image Source: NAIP Imagery (https://gis.apfo.usda.gov/arcgis/ services/NAIP/USDA_CONUS_PRIME/ImageServer), 2022

Project Area of Interest (AOI)

Area not Delineated --- Stream Flow Direction -x- Existing Fence Photo Location

Data Point Type Upland \triangle

Wetland **Delineated Wetland Type**

Forested (PFO)

Scrub-Shrub (PSS) Shallow Marsh (PUB)

Pond (PUBHx) Ditch (RUBx)

Emergent (PEM)

Delineated Wetland

Airport Property Boundary --- Pipeline Corridor

- -- Two-track **Contour Type**

U Upland

Index Index Depression Intermediate

Intermediate Depression

SHEET 10 MAP

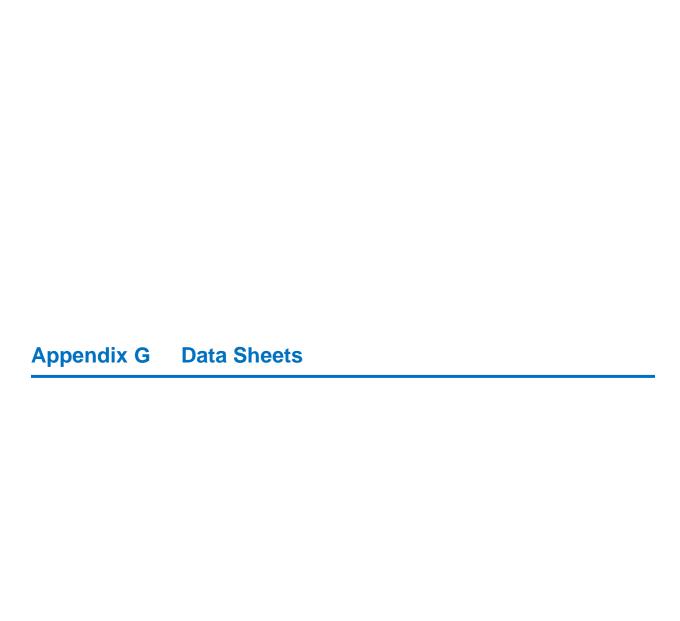
Emergent (PEM)

Forested (PFO)

Scrub-Shrub (PSS)

Pond (PUBHx)

Ditch (RUBx)



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: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/16/22
Applicant/Owner: St. Clair County		·	State: MI	Sampling Point: DP1
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tov	wnship, Range: Section 3	
Landform (hillside, terrace, etc.): Shallow d	Jepression Local re	elief (concave, conve		Slope %: 1
Subregion (LRR or MLRA): LRR L, MLRA 9	•		-82.5234191	 Datum: WGS84
Soil Map Unit Name: Wainola-Deford fine sa			NWI classification:	N/A
Are climatic / hydrologic conditions on the site		Yes X	No (If no, e	explain in Remarks.)
Are Vegetation X , Soil , or Hydro	•		nal Circumstances" prese	
Are Vegetation , Soil , or Hydro			l, explain any answers in	
SUMMARY OF FINDINGS – Attach	site map snowing samp	pling point local	tions, transects, im	portant teatures, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	rea	
Hydric Soil Present?	Yes X No	within a Wetland?		No
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 1	
Remarks: (Explain alternative procedures he	' '			
An analysis of antecedent precipitation indica	ates that environmental condition	ons were within norm	al range. Area mowed fre	equently.
HYDROLOGY				
			Odame Indicators (m	* * · · · · · · · · · · · · · · · · · ·
Wetland Hydrology Indicators:			Secondary Indicators (m	
Primary Indicators (minimum of one is requir		20)	Surface Soil Cracks	` ,
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (I	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	
Saturation (A3)	Marl Deposits (B15)	~ 4\	Dry-Season Water 1	
Water Marks (B1)	Hydrogen Sulfide Odor (0	· ·	X Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres o			n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro		Stunted or Stressed	
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Position	` '
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	
Inundation Visible on Aerial Imagery (B7		ks)	Microtopographic Re	` '
Sparsely Vegetated Concave Surface (E	38)		X FAC-Neutral Test (D	05)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present?	Yes X No
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre-	vious inspections), if	available:	
Remarks:				
Remarks: Wetland hydrology is indicated.				
Wolland Hydrology to malocica.				

VEGETATION – Use scientific names of plants. Sampling Point: DP1 Absolute Dominant Indicator Tree Stratum (Plot size: 30 ft) % Cover Species? Status **Dominance Test worksheet:** 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 3 (A) 3. **Total Number of Dominant** (B) 4. Species Across All Strata: 3 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: Multiply by: =Total Cover Total % Cover of: Sapling/Shrub Stratum (Plot size: 15 ft OBL species x 1 = Cornus amomum 25 **FACW FACW** species 30 x 2 = 2 2. FAC species x 3 = 6 x 4 = 0 3. FACU species 0 0 4. UPL species x 5 = 5. Column Totals: 125 159 1.27 6. Prevalence Index = B/A = **Hydrophytic Vegetation Indicators:** 7. 25 =Total Cover X 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% Herb Stratum (Plot size: 5 ft) 1. Carex pellita Yes OBL X 3 - Prevalence Index is ≤3.0¹ 30 4 - Morphological Adaptations¹ (Provide supporting 2. Yes OBL Carex flava data in Remarks or on a separate sheet) 5 3. Phragmites australis No **FACW** 4. Athyrium angustum No **FAC** Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in 9. diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 100 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation No Present? Yes X =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic vegetation is present.

SOIL Sampling Point DP1

Profile Desc Depth	ription: (Describe to Matrix	the de	•	cument tl ox Featur		ator or co	onfirm the absence o	f indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 3/1	100					Loamy/Clayey	
4-14	10YR 5/1	90	7.5YR 5/6	10	С	М	Loamy/Clayey	Prominent redox concentrations
14-20	10YR 5/1	80	7.5YR 5/6	20	С	М	Loamy/Clayey	Prominent redox concentrations
¹Type: C=Co	oncentration, D=Deple	tion, RI	M=Reduced Matrix,	MS=Mas	ked San	d Grains.	² Location: P	L=Pore Lining, M=Matrix.
Hydric Soil I	Indicators:						Indicators for	or Problematic Hydric Soils ³ :
Histosol			Dark Surface	, ,				ıck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		Polyvalue Bel		ce (S8) (LRR R,		rairie Redox (A16) (LRR K, L, R)
Black His	` '		MLRA 149	,	\ /I DD D	MIDA		ucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)		Thin Dark Sui High Chroma					rk Surface (S8) (LRR K, L) rk Surface (S9) (LRR K, L)
	Below Dark Surface	(A11)	Loamy Mucky					nganese Masses (F12) (LRR K, L, R)
	ark Surface (A12)	(////	Loamy Gleye			IX IX, L)		nt Floodplain Soils (F19) (MLRA 149B)
	oodic (A17)		X Depleted Mat		/			ent Material (F21) (outside MLRA 145
	A 144A, 145, 149B)		Redox Dark S		⁻ 6)			allow Dark Surface (F22)
Sandy M	lucky Mineral (S1)		Depleted Dar	k Surface	(F7)		Other (E	xplain in Remarks)
	leyed Matrix (S4)		X Redox Depre	-	8)			
	edox (S5)		Marl (F10) (L l	•				ors of hydrophytic vegetation and
Stripped	Matrix (S6)		Red Parent M	laterial (F	21) (ML I	RA 145)		nd hydrology must be present,
Restrictive I	_ayer (if observed):						uniess	s disturbed or problematic.
Type:	zayer (ii observea).							
Depth (ir	nches):						Hydric Soil Prese	nt? Yes X No
Remarks:								_
•			cator Depleted Belo	w Dark Si	urface (A	(11), Depl	leted Matrix (F3), and	Redox Depressions (F8) are satisfied.
Wetland is in	a closed depression.							



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: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: ST CLAIR COUNTY INTERNA	ATIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/16/22
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP 2
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tov	vnship, Range: Section 3	
Landform (hillside, terrace, etc.): Terrace	Local r	elief (concave, conve		Slope %: 0-1%
Subregion (LRR or MLRA): LRR L, MLRA 9		•	-82.523526	Datum: WGS84
Soil Map Unit Name: Wainola-Deford fine sa			NWI classification:	N/A
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)
Are Vegetation X, Soil , or Hydro	· 		nal Circumstances" prese	
Are Vegetation, Soil, or Hydro			, explain any answers in	•
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	202	
Hydric Soil Present?	Yes X No	within a Wetland?		No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet		<u> </u>
Remarks: (Explain alternative procedures h	ere or in a separate report.)			
An analysis of antecedent precipitation indic		ons were within norma	al range. Area is mown f	requently.
<u> </u>				
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is require			Surface Soil Cracks	` '
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns ((B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	•
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	· ·
Water Marks (B1)	Hydrogen Sulfide Odor (0	C1)	Crayfish Burrows (C	28)
Sediment Deposits (B2)	Oxidized Rhizospheres o	• , ,	Saturation Visible o	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro	on (C4)	Stunted or Stressed	d Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Positio	on (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D)3)
Inundation Visible on Aerial Imagery (B7	7) Other (Explain in Remark	ks)	Microtopographic R	elief (D4)
Sparsely Vegetated Concave Surface (E	38)		FAC-Neutral Test ([D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes NoX_
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos, pre	vious inspections), if a	available:	
D alog.				
Remarks: Wetland hydrology is neither present nor ind	licated			
Wettand Hydrology to Holdrer process in the	loated.			

VEGETATION – Use scientific names of plants. Sampling Point: DP 2 Absolute Dominant Indicator Tree Stratum (Plot size: 30 ft) % Cover Species? Status **Dominance Test worksheet:** 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: (A) 3. Total Number of Dominant 4. Species Across All Strata: 2 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 50.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15 ft **OBL** species x 1 = 0 0 **FACW** species x 2 = 5 2. FAC species x 3 = 15 FACU species 80 320 3. x 4 = 4 5 6 7

·				UPL species 0 x 5 = 0			
i				Column Totals: 100 (A) 350 (B)			
i				Prevalence Index = B/A = 3.50			
				Hydrophytic Vegetation Indicators:			
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
lerb Stratum (Plot size:5 ft)				2 - Dominance Test is >50%			
. Poa compressa	39	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹			
Carex flava	15	Yes	OBL	4 - Morphological Adaptations ¹ (Provide supporting			
Plantago lanceolata	10	No	FACU	data in Remarks or on a separate sheet)			
Fragaria virginiana	10	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)			
. Pteridium aquilinum	5	No	FACU	¹ Indicators of hydric soil and wetland hydrology must			
. Apocynum cannabinum	5	No	FAC	be present, unless disturbed or problematic.			
. Taraxacum officinale	5	No	FACU	Definitions of Vegetation Strata:			
Solidago canadensis	5	No	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in			
. Achillea millefolium	2	No	FACU	diameter at breast height (DBH), regardless of height.			
0. Cirsium arvense	2	No	FACU	Sapling/shrub – Woody plants less than 3 in. DBH			
1. Oxalis stricta	2	No	FACU	and greater than or equal to 3.28 ft (1 m) tall.			
2		_		Herb – All herbaceous (non-woody) plants, regardless			
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.			
Voody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines greater than 3.28 ft in			
		_		height.			
i		_		Hydrophytic Vegetation			
				Present? Yes No X			
		=Total Cover					

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

Hydrophytic vegetation is not present. Fails the Prevalence Index at 3.50.

SOIL Sampling Point DP 2

Profile Desci Depth	ription: (Describe t Matrix	o the de	-	ument th x Featur		ator or co	onfirm the absence o	f indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Re	emarks	
0-3	10YR 3/1	100					Loamy/Clayey			
3-9	10YR 3/1	98	7.5YR 4/4	2	С	М	Loamy/Clayey	Prominent rec	lox conce	entrations
9-18	10YR 4/3	95	7.5YR 4/4	5	С	М	Sandy	Faint redox	concent	rations
								_		
¹Type: C=Co	ncentration, D=Deple	etion, RN	M=Reduced Matrix, N	 ИS=Mas	ked San	d Grains.	² Location: F	L=Pore Lining, M	=Matrix.	
Hydric Soil I								or Problematic H		oils³:
Histosol (Dark Surface (•				ıck (A10) (LRR K		•
	ipedon (A2)		Polyvalue Belo		ce (S8) (LRR R,		rairie Redox (A16		
Black His	` '		MLRA 149B	,	\	MIDA		icky Peat or Peat		
	n Sulfide (A4) Layers (A5)		Thin Dark Surfa					ıe Below Surface rk Surface (S9) (L		-
	Below Dark Surface	(A11)	Loamy Mucky					nganese Masses		
	rk Surface (A12)	(, , , , ,	Loamy Gleyed			, = /		nt Floodplain Soils		-
	odic (A17)		Depleted Matri		,			ent Material (F21)		-
(MLR	A 144A, 145, 149B)		X Redox Dark Su	urface (F	⁻ 6)		Very Sh	allow Dark Surfac	e (F22)	
Sandy M	ucky Mineral (S1)		Depleted Dark	Surface	(F7)		Other (E	xplain in Remark	s)	
	eyed Matrix (S4)		Redox Depress	•	8)		2			
	edox (S5)		Marl (F10) (LR					ors of hydrophytic		
Stripped	Matrix (S6)		Red Parent Ma	ıterial (F	21) (MLI	RA 145)		nd hydrology must		ent,
Restrictive I	ayer (if observed):						unies	s disturbed or prob	olematic.	
Type:	ayer (ii ebserveu).									
Depth (in	ches):						Hydric Soil Prese	nt? Yes	х і	No
Remarks:	<u> </u>									
	re present. Hydric s	oils indic	ator Redox Dark Sur	rface (F6	6) is satis	sfied.				
·	,			•	•					



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: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/16/22
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP3
Investigator(s): Brauna Hartzell & Caroline B	ruchman, Mead & Hunt, Inc.	Section, Tov	vnship, Range: Section 3	
Landform (hillside, terrace, etc.): Shallow s	wale Local re	elief (concave, conve		Slope %: <1%
Subregion (LRR or MLRA): LRR L, MLRA 9		•	-82.523388	 Datum: WGS84
Soil Map Unit Name: Wainola-Deford fine sa				N/A
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)
Are Vegetation X, Soil , or Hydro	•		nal Circumstances" prese	
Are Vegetation , Soil , or Hydro	<u></u>		l, explain any answers in	
				•
SUMMARY OF FINDINGS – Attach	site map snowing samp	pling point locat	ions, transects, im	portant reatures, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	'ea	
Hydric Soil Present?	Yes X No	within a Wetland?		No
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 1	
Remarks: (Explain alternative procedures he				
An analysis of antecedent precipitation indica	ates that environmental condition	ons were within norm	al range. Area mowed fre	equently.
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	
Primary Indicators (minimum of one is require			Surface Soil Cracks	` '
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (I	·
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B1	•
Saturation (A3)	Marl Deposits (B15)	=	Dry-Season Water T	
Water Marks (B1)	Hydrogen Sulfide Odor (C	•	X Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres o			n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stressed	` ,
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Position	` '
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	
Inundation Visible on Aerial Imagery (B7	/ 	(s)	Microtopographic Re	
Sparsely Vegetated Concave Surface (B	i8)		X FAC-Neutral Test (D)5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present?	Yes X No
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, prev	vious inspections), if	available:	
Dimondia				
Remarks: Wetland hydrology is indicated.				
Wettand Hydrology to indicated.				

VEGETATION – Use scientific names of plants.	Sampling Point:	DP3

<u>Tree Stratum</u> (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:					
1.				Number of Dominant Species					
2.				That Are OBL, FACW, or FAC: (A)					
3				Total Number of Dominant					
4				Species Across All Strata: 2 (B)					
5				Percent of Dominant Species					
6				That Are OBL, FACW, or FAC: 100.0% (A/B)					
7				Prevalence Index worksheet:					
		=Total Cover		Total % Cover of: Multiply by:					
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 58 x 1 = 58					
1. Salix petiolaris	15	Yes	FACW	FACW species 25 x 2 = 50					
2.				FAC species 30 x 3 = 90					
3				FACU species 2 x 4 = 8					
4				UPL species0 x 5 =0					
5				Column Totals: 115 (A) 206 (B)					
6				Prevalence Index = B/A = 1.79					
7				Hydrophytic Vegetation Indicators:					
	15	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation					
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%					
1. Carex pellita	58	Yes	OBL	X 3 - Prevalence Index is ≤3.0 ¹					
2. Athyrium angustum	15	No	FAC	4 - Morphological Adaptations ¹ (Provide supporting					
3. Equisetum hyemale	10	No	FAC	data in Remarks or on a separate sheet)					
4. Prunella vulgaris	5	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)					
5. Phragmites australis	5	No	FACW	¹ Indicators of hydric soil and wetland hydrology must					
6. Onoclea sensibilis	5	No	FACW	be present, unless disturbed or problematic.					
7. Fragaria virginiana	2	No	FACU	Definitions of Vegetation Strata:					
8.				Tree – Woody plants 3 in. (7.6 cm) or more in					
9				diameter at breast height (DBH), regardless of height.					
10				Sapling/shrub – Woody plants less than 3 in. DBH					
11.				and greater than or equal to 3.28 ft (1 m) tall.					
12.				Herb – All herbaceous (non-woody) plants, regardless					
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.					
Woody Vine Stratum (Plot size:15 ft)				Woody vines – All woody vines greater than 3.28 ft in					
1.				height.					
2.									
3.				Hydrophytic Vegetation					
4.				Present? Yes X No					
		=Total Cover							
Remarks: (Include photo numbers here or on a separ	ate sheet.)			•					
Hydrophytic vegetation is present.									

SOIL Sampling Point DP3

Depth	Matrix	o tile de		x Featur		יט וט וטוג	onfirm the absence o	indicators.)			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks Prominent redox concentrations			
0-12	10YR 3/1	98	10YR 5/6	2	С	М	Loamy/Clayey				
12-20 10YR 5/1 98		10YR 5/6	2	<u>C</u>	M	Loamy/Clayey	Prominent redox concentrations				
		<u> </u>		<u> </u>					_ _ _		
		_					<u> </u>				
				<u> </u>					_ _ _		
¹Type: C=Co	oncentration, D=Deple	etion, RN		 MS=Mas	sked San	d Grains.	2Location: F	PL=Pore Lining, M=Matrix.	<u> </u>		
Histosol Histic Ep Black His Hydrogel Stratified X Depleted Thick Da Mesic Sp (MLR. Sandy M Sandy G Sandy R Stripped	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) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Restrictive Layer (if observed):				R, MLRA 1 R K, L) R K, L)	Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)					
Type: Depth (in	nches):						Hydric Soil Prese	ent? Yes <u>X</u> No			
Remarks: Hydric soils a	are present. Hydric so	oils indic	ator Depleted Below	Dark Si	urface (A	(11) and F	Redox Dark Surface (F	-6) are satisfied.			



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: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/16/22			
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP4			
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tow	nship, Range: Section 3				
Landform (hillside, terrace, etc.): Terrace	Local re	elief (concave, convex	-	Slope %: 0-1%			
Subregion (LRR or MLRA): LRR L, MLRA 9		•	-82.523362	Datum: WGS84			
Soil Map Unit Name: Wainola-Deford fine sa				N/A			
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)			
							
Are Vegetation X, Soil , or Hydro	<u></u>		al Circumstances" prese				
Are Vegetation, Soil, or Hydro			explain any answers in	•			
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locati	ons, transects, im	portant features, etc.			
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Are					
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No X			
Wetland Hydrology Present?	Yes No X	If yes, optional Wetl					
Remarks: (Explain alternative procedures he	ere or in a separate report.)						
An analysis of antecedent precipitation indic	ates that environmental conditi	ions were within norma	al range. Area is mown f	frequently.			
HYDROLOGY							
Wetland Hydrology Indicators:		:		ninimum of two required)			
Primary Indicators (minimum of one is requir	,		Surface Soil Cracks	` ,			
Surface Water (A1)	Water-Stained Leaves (B						
High Water Table (A2)	Aquatic Fauna (B13)	-	Moss Trim Lines (B	·			
Saturation (A3)	Marl Deposits (B15)	_	Dry-Season Water ⁻				
Water Marks (B1)	Hydrogen Sulfide Odor (C	-	Crayfish Burrows (C	,			
Sediment Deposits (B2)	Oxidized Rhizospheres o	· · · ·		n Aerial Imagery (C9)			
Drift Deposits (B3)	ft Deposits (B3) Presence of Reduced In			l Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in	n Tilled Soils (C6) Geomorphic Position (D2)					
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7	Other (Explain in Remark	(s)	Microtopographic R	elief (D4)			
Sparsely Vegetated Concave Surface (E	38)		FAC-Neutral Test (D5)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inches):						
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):						
Saturation Present? Yes	No X Depth (inches):	Wetland	Hydrology Present?	Yes No _X			
(includes capillary fringe)							
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre-	vious inspections), if a	vailable:				
Remarks:							
Wetland hydrology is neither present nor ind	icated.						
,							

	Absolute	Dominant	Indicator						
Tree Stratum (Plot size: 30 ft)	% Cover	Species?	Status	Dominance Test	worksheet	:			
1 2				Number of Domin That Are OBL, FA			1	_(A)	
3. 4.				Total Number of Dominant Species Across All Strata:			4	_(B)	
5.6.7.				Percent of Domin That Are OBL, FA			5.0%	_ (A/I	
				Prevalence Index	x workshee	t:			
	=Total Cover			Total % Cover of: Multiply by:					
Sapling/Shrub Stratum (Plot size:15 ft)				OBL species	0	x 1 =	0		
. Cornus racemosa	15	Yes	FAC	FACW species	20	x 2 =	40		
				FAC species	25	x 3 =	75		
				FACU species	70	x 4 =	280		
				UPL species	0	x 5 =	0		
i.				Column Totals:	115	(A)	395	(
i.				Prevalence	e Index = B	/A =	3.43		
				Hydrophytic Vegetation Indicators:					
	15	=Total Cover		1 - Rapid Tes	t for Hydrop	hytic Veg	etation		
Herb Stratum (Plot size:5 ft)				2 - Dominano	e Test is >5	0%			
Gaultheria procumbens	25	Yes	FACU	3 - Prevalenc	e Index is ≤	3.0 ¹			
P. Festuca rubra	15	Yes	FACU	4 - Morphological Adaptations ¹ (Provide suppo					
3. Poa compressa	15	Yes	FACU	data in Remarks or on a separate sheet)					
. Fragaria virginiana	10	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)					
o. Onoclea sensibilis	10	No	FACW	¹ Indicators of hydric soil and wetland hydrology mus					
6. Carex granularis	10	No	FACW	be present, unless disturbed or problematic.					
7. Athyrium angustum	5	No	FAC	Definitions of Vegetation Strata:					
3. Achillea millefolium	5	No	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height					
. Equisetum hyemale	5	No	FAC						
0.				Sapling/shrub –	Woody plan	ts less th	an 3 in 1)RH	
11.				and greater than				,,,,,	
12.				Herb – All herbac	oous (non v	voody) pl	ante roa	ardle	
	100	=Total Cover		of size, and wood				aruic	
Voody Vine Stratum (Plot size: 15 ft)				Woody vines – A height.	ll woody vin	es greate	er than 3.	.28 f	
3.				Hydrophytic					
1.				Vegetation Present?	Yes	No	X		
	-	=Total Cover				_			

in elevation

Color (moist)	Profile Desc Depth	cription: (Describe to Matrix	the de	-	ument th x Featur		ator or co	onfirm the absence of i	ndicators.)	
10-20			%				Loc ²	Texture	Remarks	
20-22 10YR 6/1 90 10YR 6/8 10 C M Loamy/Clayey Prominent redox concentrations *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Black Histic (A3) Stratified Layers (A5) Depleted Below Dark Surface (S1) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 149R) Redox Depressions (F8) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Thick Dark Surface (S9) (LRR K, L) Polyadue Below Surface (S9) (LRR K, L) Thin Dark Surface (S9)	0-16	10YR 2/1	100					Loamy/Clayey		
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. # Hydric Soil Indicators: Histosoil (A1)	16-20	10YR 5/4	90	10YR 4/6	10	С	М	Sandy	Distinct redox concent	rations
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. # Hydric Soil Indicators: Histosoil (A1)	20-22	10YR 6/1	90	10YR 6/8	10		М	Loamy/Clayey	Prominent redox concer	ntrations
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:								<u> </u>		
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 1448) Sendy Mucky Mineral (F1) (LRR K, L) Beloted Matrix (F3) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Depleted Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Are dox Derressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										
Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR K, L, R) Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Polyvalue Below Surface (S9) (LRR K, L, R) Polyvalue Below Surface (S9) (LRR K, L, R) Thin Dark Surface (S9) (LRR K, L, L) Iron-Manganese Masses (F12) (LRR K, L, R) Polyvalue Below Surface (S9) (LRR K, L, L) Iron-Manganese Masses (F12) (LRR K, L, R) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Polyvalue Below Surface (S9) (L			tion, RN	Л=Reduced Matrix, №	/IS=Mas	ked San	d Grains.			
Histic Epipedon (A2) Black Histic (A3) MLRA 149B) Form Mucky Peat or Peat (S3) (LRR K, L, R) Form Mucky Peat or Peat (S3) (LRR K, L) Form Mucky Peat or Peat (S3) (LRR K, L) Form Mucky Peat or Peat (S3) (LRR K, L) Form Mucky Peat or Peat (S3) (LRR K, L) Form Mucky Peat or Peat (S4) (LRR K, L) Form Mucky Peat or Peat (S4) Form	-			5 1 5 6	o=\					
Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Redox (S5) Stripped Matrix (S6) Marl (F10) (LRR K, L) Mestrictive Layer (if observed): Type: Depth (inches): MRA 149B) Thin Dark Surface (S9) (LRR K, L) High Chroma Sands (S11) (LRR K, L) High Chroma Sands (S11) (LRR K, L) High Chroma Sands (S11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (S9) (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 Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Red Parent Matrix (F3) Red Parent Material (F21) (outside MLRA 145 Very Shallow Dark Surface (F22) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X						aa (CO) (I DD D			
Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) Mesic Spodic (A17) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (outside MLRA 145) Wetland In Remarks) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Peledmont Floodplain Soils (F19) (MLRA 149B) Red Parent Material (F21) (outside MLRA 145) Very Shallow Dark Surface (F22) Other (Explain in Remarks) Shouth of the Material (F21) (MLRA 145) Shouth of the Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Depth (inches): Hydric Soil Present? Yes No X						ce (58) (LKK K,			•
Stratified Layers (A5)					,	(I RR R	MI RA 1			-
Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (A17) Depleted Matrix (F3) Red Parent Material (F21) (outside MLRA 145B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:										11, =/
Thick Dark Surface (A12) Mesic Spodic (A17) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Redox Depressions (F8) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (outside MLRA 145) Redox Depressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:			(A11)							R K. L. R)
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(MLRA 144A, 145, 149B) Redox Dark Surface (F6) Very Shallow Dark Surface (F22) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X						–,				-
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Depth (inches): Remarks: Depth Winches (S1) Depleted Dark Surface (F7) Redox Depressions (F8) Redox Depressions (F8) All (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No X Remarks:						6)				- ,
Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Depth (inches): Remarks: Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No X						-				
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No X Remarks:	Sandy G	Gleyed Matrix (S4)		Redox Depress	sions (F	8)				
Restrictive Layer (if observed): Type: Depth (inches): Remarks:	Sandy R	tedox (S5)		Marl (F10) (LRR K, L)				³ Indicators	of hydrophytic vegetation	n and
Restrictive Layer (if observed): Type: Depth (inches): Remarks: Hydric Soil Present? Yes No X	Stripped	Matrix (S6)		Red Parent Material (F21) (MLRA 145)			RA 145)			nt,
Type:	Postriotivo I	Lavor (if abaamad):						unless d	isturbed or problematic.	
Depth (inches): Hydric Soil Present? Yes No X Remarks:		Layer (ii observeu).								
Remarks:	•	nches):						Hydric Soil Present?	? Yes N	o X
	Remarks:									
		are not present. Does	not mee	et hydric soils criteria						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/17/22
Applicant/Owner: St. Clair County		·	State: MI	Sampling Point: DP5
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tov	wnship, Range: Section 3	
Landform (hillside, terrace, etc.): Swale	Local re	elief (concave, conve		Slope %: <1%
Subregion (LRR or MLRA): LRR L, MLRA 9	9 Lat: 42.917838	Long:	-82.523376	Datum: WGS84
Soil Map Unit Name: Wainola-Deford fine sa				N/A
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)
Are Vegetation X, Soil , or Hydro			nal Circumstances" prese	
Are Vegetation , Soil , or Hydro	<u></u>		d, explain any answers in	
SUMMARY OF FINDINGS – Attach	<u></u>			•
V matalian Brazanto	y y N.			
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes X No Yes X No	Is the Sampled Ar within a Wetland?		No
Wetland Hydrology Present?	Yes X No	If yes, optional We		<u> </u>
Remarks: (Explain alternative procedures he				
An analysis of antecedent precipitation indica		ons were within norm	al range. Area mowed fre	equently.
- 			-	
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is require	,		Surface Soil Cracks	` '
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (I	·
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	•
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water 1	Γable (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1)	X Crayfish Burrows (C	(8)
Sediment Deposits (B2)	Oxidized Rhizospheres o		Saturation Visible or	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Stressed	Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Position	n (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	3)
Inundation Visible on Aerial Imagery (B7	Other (Explain in Remark	(s)	Microtopographic Re	elief (D4)
Sparsely Vegetated Concave Surface (B	38)		X FAC-Neutral Test (D	D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):		d Hydrology Present?	Yes X No
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre	vious inspections), if	available:	
Aerial photo?				
Remarks:				
Wetland hydrology is indicated.				

VEGETATION – Use scientific names of plants. Sampling Point: DP5 Absolute Dominant Indicator <u>Tree Stratum</u> (Plot size: 30 ft) % Cover Species? Status **Dominance Test worksheet:** 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 4 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: Multiply by: =Total Cover Total % Cover of: Sapling/Shrub Stratum (Plot size: 15 ft OBL species x 1 = Fraxinus pennsylvanica 5 **FACW FACW** species x 2 = 10 5 2. Cornus racemosa Yes **FAC** FAC species x 3 =15 x 4 = 0 3. FACU species 0 0 4. UPL species x 5 = 5. Column Totals: 110 125 6. Prevalence Index = B/A = 1.14 **Hydrophytic Vegetation Indicators:** 7. 10 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% Herb Stratum (Plot size: 5 ft) Carex Iupulina Yes OBL X 3 - Prevalence Index is ≤3.0¹ 20 4 - Morphological Adaptations¹ (Provide supporting 2. OBL Carex pellita Yes data in Remarks or on a separate sheet) 5 3. Iris virginica No OBL 4. Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in 9. diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 100 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation No Present? Yes X =Total Cover Remarks: (Include photo numbers here or on a separate sheet.) Shrubs are mowed. Hydrophytic vegetation is present.

Profile Desc Depth	ription: (Describe to Matrix	o the de	•	ment tl : Featur		ator or co	onfirm the absence o	f indicate	ors.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	S
0-6	10YR 3/1	100					Loamy/Clayey			
6-9	10YR 4/1	98	5YR 3/4	2	С	M	Loamy/Clayey	Prom	inent redox co	oncentrations
9-18	10YR 4/1	95	10YR 5/6	5	C	PL/M	Loamy/Clayey	Prom	inent redox co	oncentrations
¹ Type: C=Co	oncentration, D=Deple	tion P	M-Reduced Matrix M		kod San	d Grains	² l ocation: P	I -Pore I	ining, M=Matı	riv
Hydric Soil I		tion, ixi	vi-ineduced Matrix, iv	IO-IVIAS	okeu San	u Grairis.			ematic Hydric	•
Histosol			Dark Surface (S	S7)					(LRR K, L, M	
	ipedon (A2)		Polyvalue Belov		ce (S8) (LRR R,			lox (A16) (LR I	•
Black His	` '		MLRA 149B)		\			-		(LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surfa						Surface (S8) (•
	Layers (A5) Below Dark Surface	(A11)	High Chroma S Loamy Mucky N						e (S9) (LRR K Masses (F12)	(LRR K, L, R)
	rk Surface (A12)	(/ ())	Loamy Gleyed			it it, =/		-) (MLRA 149B)
	oodic (A17)		X Depleted Matrix		,				-	side MLRA 145)
(MLR	A 144A, 145, 149B)		Redox Dark Su	rface (F	- 6)		Very Sh	allow Dar	k Surface (F2	2)
	ucky Mineral (S1)		Depleted Dark	Surface	(F7)		Other (E	xplain in	Remarks)	
	leyed Matrix (S4)		Redox Depress		8)		2			
	edox (S5)			Marl (F10) (LRR K, L)				-	rophytic veget	
Stripped	Matrix (S6)		Red Parent Ma	Red Parent Material (F21) (MLRA 145)				-	ogy must be p d or problema	
Restrictive L	ayer (if observed):						diffeet	diotarbo	a or probleme	ido.
Type:										
Depth (in	iches):						Hydric Soil Prese	nt?	Yes X	No
Remarks:							•			
Hydric soils a	re present. Hydric so	oils indic	cator Depleted Below	Dark S	urface (A	.11) and [Depleted Matrix (F3) a	re satisfie	ed.	



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/17/22					
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP6					
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tow	vnship, Range: Section 3	_					
Landform (hillside, terrace, etc.): Shoulder	Local re	elief (concave, convex	-	Slope %: 2-3%					
Subregion (LRR or MLRA): LRR L, MLRA 9		•	-82.523354	Datum: WGS84					
Soil Map Unit Name: Wainola-Deford fine sa				N/A					
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)					
									
Are Vegetation X, Soil , or Hydro	<u></u>		al Circumstances" prese						
Are Vegetation, Soil, or Hydro			, explain any answers in	·					
SUMMARY OF FINDINGS – Attach	site map showing samp	pling point locati	ions, transects, im	portant features, etc.					
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Are							
Hydric Soil Present?	Yes No X	within a Wetland?		No X					
Wetland Hydrology Present?	Yes No X	If yes, optional Wetl		<u></u>					
Remarks: (Explain alternative procedures he	ere or in a separate report.)								
An analysis of antecedent precipitation indicates that environmental conditions were within normal range. Area mowed frequently.									
I									
<u> </u>									
HYDROLOGY									
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)					
Primary Indicators (minimum of one is require	,		Surface Soil Cracks	` '					
Surface Water (A1)	Water-Stained Leaves (B		Drainage Patterns ((B10)					
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	16)					
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water ⁻						
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows (C	28)					
Sediment Deposits (B2)	Oxidized Rhizospheres o	• , ,	Saturation Visible o	n Aerial Imagery (C9)					
Drift Deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Stressed	d Plants (D1)					
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Positio	on (D2)					
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D)3)					
Inundation Visible on Aerial Imagery (B7	7) Other (Explain in Remark	(s)	Microtopographic R	elief (D4)					
Sparsely Vegetated Concave Surface (B	38)		FAC-Neutral Test ([D5)					
Field Observations:									
Surface Water Present? Yes	No X Depth (inches):								
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):								
Saturation Present? Yes	No X Depth (inches):		d Hydrology Present?	Yes No X					
(includes capillary fringe)									
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre-	vious inspections), if a	available:						
				_					
Remarks:	licated								
Wetland hydrology is neither present nor indi	icated.								

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size:30 ft)	% Cover	Species?	Status	Dominance Test worksheet:
1 2				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
3. 4.				Total Number of Dominant Species Across All Strata: 3 (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species0 x 1 =0
1. Cornus racemosa	10	Yes	FAC	FACW species 2 x 2 = 4
2				FAC species14 x 3 =42
3				FACU species 94 x 4 = 376
4.				UPL species0 x 5 =0
5				Column Totals: 110 (A) 422 (B)
6.				Prevalence Index = B/A = 3.84
7				Hydrophytic Vegetation Indicators:
	10	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5 ft)				2 - Dominance Test is >50%
1. Festuca rubra	45	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
2. Poa pratensis	20	Yes	FACU	4 - Morphological Adaptations (Provide supporting
3. Plantago lanceolata	15	No	FACU	data in Remarks or on a separate sheet)
4. Fragaria virginiana	5	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Achillea millefolium	5	No	FACU	¹ Indicators of hydric soil and wetland hydrology must
6. Athyrium angustum	2	No	FAC	be present, unless disturbed or problematic.
7. Onoclea sensibilis	2	No	FACW	Definitions of Vegetation Strata:
8. Rudbeckia hirta	2	No	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in
9. Equisetum arvense	2	No	FAC	diameter at breast height (DBH), regardless of height.
10. <u>Daucus carota</u> 11	2	No	FACU	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.		·		
	100	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woody vines greater than 3.28 ft in height.
2.				-
3.				Hydrophytic
4.				Vegetation Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	arata abaat \	•		ı

Profile Desc Depth	ription: (Describe to Matrix	the de	•	ument th x Featur		ator or co	onfirm the absence of	f indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-10	10YR 2/1	100					Loamy/Clayey		
10-12	10YR 6/4	48	7.5YR 4/6	2	С	М	Sandy	Distinct redox concentration	ons
	10YR 3/4	45	7.5YR 4/6	5	С	М	Sandy	Distinct redox concentration	ons
12-18	10YR 3/1	99	10YR 5/6	1	С	М	Loamy/Clayey	Prominent redox concentra	tions
	oncentration, D=Deple	etion, RN	1=Reduced Matrix, N	/IS=Mas	ked San	d Grains.		L=Pore Lining, M=Matrix.	
Hydric Soil I			Dank Confess ((0.7)				or Problematic Hydric Soils ³ :	
Histosol (Dark Surface (Polyvalue Belo		00 (59) (I DD D		ck (A10) (LRR K, L, MLRA 14	
Black His	ipedon (A2)		MLRA 149B		ce (So) (LKK K,		airie Redox (A16) (LRR K, L, I cky Peat or Peat (S3) (LRR K ,	
	n Sulfide (A4)		Thin Dark Surf	,	(I RR R	MI RA 1		e Below Surface (S8) (LRR K ,	
	Layers (A5)		High Chroma S				· —	k Surface (S9) (LRR K, L)	_,
	Below Dark Surface	(A11)	Loamy Mucky					nganese Masses (F12) (LRR K	LR)
	rk Surface (A12)	(/ ())	Loamy Gleyed			(it Floodplain Soils (F19) (MLR A	
	odic (A17)		Depleted Matri		. –,			ent Material (F21) (outside ML	
	A 144A, 145, 149B)		Redox Dark Su		6)			allow Dark Surface (F22)	-,
	ucky Mineral (S1)		Depleted Dark		-			xplain in Remarks)	
	leyed Matrix (S4)		Redox Depres					,	
Sandy Re	edox (S5)		Marl (F10) (LR	Marl (F10) (LRR K, L)			³ Indicato	rs of hydrophytic vegetation ar	nd
Stripped	Matrix (S6)		Red Parent Ma	iterial (F	21) (MLF	RA 145)		d hydrology must be present, disturbed or problematic.	
Restrictive L	ayer (if observed):								
Type:									
Depth (in	iches):						Hydric Soil Preser	nt? Yes No_	X
Remarks:									
Hydric soils a	are not present. Does	not mee	t hydric soils criteria	•					



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/17/22					
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP7					
Investigator(s): Brauna Hartzell & Caroline Br	ruchman, Mead & Hunt, Inc.	Section, Tov	vnship, Range: Section 3						
Landform (hillside, terrace, etc.): Shallow be	asin Local re	elief (concave, conve		Slope %: <1%					
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.5237	 Datum: WGS84					
Soil Map Unit Name: Wainola-Deford fine sa				N/A					
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)					
Are Vegetation X, Soil , or Hydrol	•		nal Circumstances" prese						
Are Vegetation , Soil , or Hydrol			l, explain any answers in						
									
SUMMARY OF FINDINGS – Attach	site map snowing samp	pling point locat	ions, transects, im	portant reatures, etc.					
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	'ea						
Hydric Soil Present?	Yes X No	within a Wetland?		No					
Wetland Hydrology Present?	Yes X No	If yes, optional Wet	tland Site ID: 6						
Remarks: (Explain alternative procedures he									
An analysis of antecedent precipitation indicates that environmental conditions were within normal range. Area mowed frequently.									
HADDOI OGA									
HYDROLOGY									
Wetland Hydrology Indicators:			Secondary Indicators (m						
Primary Indicators (minimum of one is require			Surface Soil Cracks	` '					
Surface Water (A1)	X Water-Stained Leaves (B	,9)	Drainage Patterns (E	·					
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B1	•					
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water T						
Water Marks (B1)	Hydrogen Sulfide Odor (C	·	X Crayfish Burrows (C	•					
Sediment Deposits (B2)	Oxidized Rhizospheres of			n Aerial Imagery (C9)					
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stressed	` ,					
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Position	` '					
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	3)					
Inundation Visible on Aerial Imagery (B7)Other (Explain in Remark	(s)	Microtopographic Re	elief (D4)					
Sparsely Vegetated Concave Surface (B	8)		X FAC-Neutral Test (D)5)					
Field Observations:									
Surface Water Present? Yes	No X Depth (inches):								
Water Table Present? Yes	No X Depth (inches):								
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes X No					
(includes capillary fringe)									
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, prev	vious inspections), if	available:						
Demonstra									
Remarks: Wetland hydrology is indicated.									
Welland Hydrology is indicated.									

VEGETATION – Use scientific names of plants. Sampling Point: DP7 Absolute Dominant Indicator <u>Tree Stratum</u> (Plot size: 30 ft) % Cover Species? Status **Dominance Test worksheet:** 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: (A) 3. **Total Number of Dominant** 4. Species Across All Strata: (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: =Total Cover Multiply by: Total % Cover of: Sapling/Shrub Stratum (Plot size: 15 ft OBL species x 1 = **FACW** species 88 x 2 = 176 0 2. FAC species x 3 = 0 x 4 = 0 3. FACU species 0 0 4. UPL species x 5 = 5. Column Totals: 100 188 Prevalence Index = B/A = 1.88 6. **Hydrophytic Vegetation Indicators:** 7. X 1 - Rapid Test for Hydrophytic Vegetation =Total Cover X 2 - Dominance Test is >50% Herb Stratum (Plot size: 5 ft) 1. Phragmites australis 88 Yes **FACW** X 3 - Prevalence Index is ≤3.0¹ 5 4 - Morphological Adaptations¹ (Provide supporting 2. No OBL Penthorum sedoides data in Remarks or on a separate sheet) 3. Carex lupulina 3 No OBL 2 4. Cladium mariscoides No OBL Problematic Hydrophytic Vegetation¹ (Explain) 5. Alisma subcordatum No OBL ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in 9. diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 100 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation No Present? Yes X =Total Cover Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation is present.

Profile Desc	ription: (Describe to	the de	pth needed to doci	ument th	ne indica	tor or co	onfirm the absence o	of indicators.)
Depth	Matrix		Redo	x Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	10YR 3/2	100					Peat	
2-20	2.5YR 5/1	95	10YR 4/6	5	С	M	Loamy/Clayey	Prominent redox concentrations
¹Type: C=Co	ncentration, D=Deple	etion. RN	/=Reduced Matrix. N	MS=Mas	ked Sand	d Grains.	² Location: F	PL=Pore Lining, M=Matrix.
Hydric Soil I		,						or Problematic Hydric Soils ³ :
Histosol (Dark Surface (S7)				uck (A10) (LRR K, L, MLRA 149B)
Histic Ep	ipedon (A2)		Polyvalue Belo	w Surfa	ce (S8) (I	LRR R,		rairie Redox (A16) (LRR K, L, R)
Black His	stic (A3)		MLRA 149B	3)			5 cm Mu	ucky Peat or Peat (S3) (LRR K, L, R)
Hydroger	n Sulfide (A4)		Thin Dark Surf		-			ue Below Surface (S8) (LRR K, L)
	Layers (A5)		High Chroma S	-				rk Surface (S9) (LRR K, L)
	Below Dark Surface	(A11)	Loamy Mucky			R K, L)		nganese Masses (F12) (LRR K, L, R)
	rk Surface (A12)		Loamy Gleyed		F2)			nt Floodplain Soils (F19) (MLRA 149B)
	odic (A17)		X Depleted Matri		.07			rent Material (F21) (outside MLRA 145)
	A 144A, 145, 149B) ucky Mineral (S1)		Redox Dark Su Depleted Dark	•	•			allow Dark Surface (F22) Explain in Remarks)
	leyed Matrix (S4)		Redox Depres					Explain in Nomano,
	edox (S5)		Marl (F10) (LR	•	-,		³ Indicato	ors of hydrophytic vegetation and
	Matrix (S6)		Red Parent Ma		21) (MLF	RA 145)		nd hydrology must be present,
							unles	s disturbed or problematic.
Restrictive L	ayer (if observed):							
Type:								
Depth (in	ches):						Hydric Soil Prese	nt? Yes X No
Remarks:							<u> </u>	
								are satisfied. Area is a shallow
								athways or subsurface connections and
trius is likely i	not closed. Does not i	meet the	Redox Depressions	S (FO) III	uicator io	i illis rea	ISON.	



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/17/22
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP8
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tow	nship, Range: Section 3	
Landform (hillside, terrace, etc.): Shoulder	Local re	elief (concave, convex		Slope %: 3%
Subregion (LRR or MLRA): LRR L, MLRA 9		•	-82.523647	Datum: WGS84
Soil Map Unit Name: Wainola-Deford fine sa				N/A
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)
Are Vegetation X, Soil , or Hydro	<u> </u>		al Circumstances" prese	
Are Vegetation, Soil, or Hydro			, explain any answers in	•
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	<u></u>	
Hydric Soil Present?	Yes X No	within a Wetland?		No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:	
Remarks: (Explain alternative procedures he	,			
An analysis of antecedent precipitation indica	ates that environmental condition	ons were within norma	al range. Area mowed fro	equently.
HYDROLOGY				
			Od-milindicators (m	' ' · · · · · · · · · · · · · · · · · ·
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required)	rad: aback all that apply)			ninimum of two required)
Surface Water (A1)	Water-Stained Leaves (B	<u> </u>	Surface Soil Cracks Drainage Patterns (, ,
High Water Table (A2)	Aquatic Fauna (B13)	·9)	Moss Trim Lines (B	•
Saturation (A3)	Marl Deposits (B15)	•	Dry-Season Water	·
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres o		`	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	• , ,	Stunted or Stressed	
Algal Mat or Crust (B4)	Recent Iron Reduction in		Geomorphic Positio	
Iron Deposits (B5)	Thin Muck Surface (C7)	111100 00110 (00)	Shallow Aquitard (D	
Inundation Visible on Aerial Imagery (B7		(s)	Microtopographic R	•
Sparsely Vegetated Concave Surface (E			FAC-Neutral Test (I	` '
Field Observations:	,		<u> </u>	,
	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):		d Hydrology Present?	Yes No X
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre	vious inspections), if a	available:	
Remarks: Wetland hydrology is neither present nor ind	licated			
Welland nydrology is heither present nor mu	icated.			

ree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
·				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
·				Total Number of Dominant Species Across All Strata: 2 (B)
·				Percent of Dominant Species That Are OBL, FACW, or FAC:(A/E
· <u> </u>				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
apling/Shrub Stratum (Plot size:15 ft)				OBL species10 x 1 =10
				FACW species 2 x 2 = 4
				FAC species 5 x 3 = 15
				FACU species 83 x 4 = 332
				UPL species 0 x 5 = 0
				Column Totals: 100 (A) 361 (E
				Prevalence Index = B/A = 3.61
				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
erb Stratum (Plot size: 5 ft)				2 - Dominance Test is >50%
Poa pratensis	45	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
Fragaria virginiana	20	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporti
Festuca rubra	15	No	FACU	data in Remarks or on a separate sheet)
Lycopus uniflorus	10	No	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
Lotus corniculatus	2	No	FACU	
Prunella vulgaris	2	No	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Onoclea sensibilis	2	No	FACW	Definitions of Vegetation Strata:
Athyrium angustum	2	No	FAC	Tree Mondy plants 2 in (7.6 cm) or more in
Achillea millefolium	1	No	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of heigh
Equisetum hyemale	1	No	FAC	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, regardles
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.
oody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines greater than 3.28 ft height.
				Hydrophytic
				Vegetation Present? Yes No X
		=Total Cover		riesent: resNoX_
emarks: (Include photo numbers here or on a sepa	rate sheet.)			•

Profile Descr Depth	ription: (Describe to Matrix	the de		iment th x Featur		ator or co	onfirm the absence o	f indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-5	10YR 2/1	98	10YR 4/6	2	С	М	Loamy/Clayey	Prominent redox concentrations
5-7	10YR 5/4	48	10YR 5/8	2	<u>C</u>	M	Sandy	Prominent redox concentrations
	10YR 3/1	48	10YR 5/8	2	C	M	Sandy	Prominent redox concentrations
7-13	10YR 6/3	99	7.5YR 4/6	1	С	M	Sandy	Prominent redox concentrations
13-18	10YR 5/4	100					Sandy	
								_
		etion, RN	M=Reduced Matrix, M	1S=Mas	ked Sand	d Grains.		L=Pore Lining, M=Matrix.
Hydric Soil In Histosol (Dark Surface (S	S7)				or Problematic Hydric Soils ³ : ack (A10) (LRR K, L, MLRA 149B)
	pedon (A2)		Polyvalue Belov	-	ce (S8) (I	LRR R.		rairie Redox (A16) (LRR K, L, R)
Black His			MLRA 149B)		(-/(,		icky Peat or Peat (S3) (LRR K, L, R)
Hydrogen	Sulfide (A4)		Thin Dark Surfa	ace (S9)	(LRR R	, MLRA 1	149B) Polyvalu	ie Below Surface (S8) (LRR K, L)
Stratified	Layers (A5)		High Chroma S	ands (S	11) (LRF	R K, L)	Thin Dar	rk Surface (S9) (LRR K, L)
Depleted	Below Dark Surface	(A11)	Loamy Mucky N	Mineral ((F1) (LR I	R K, L)	Iron-Mar	nganese Masses (F12) (LRR K, L, R)
	k Surface (A12)		Loamy Gleyed		F2)			nt Floodplain Soils (F19) (MLRA 149B)
Mesic Spodic (A17) Depleted Matrix (F3)							rent Material (F21) (outside MLRA 145)	
	A 144A, 145, 149B)		X Redox Dark Su					allow Dark Surface (F22)
	ucky Mineral (S1) eyed Matrix (S4)		Depleted Dark Redox Depress				Other (E	explain in Remarks)
Sandy Re								ors of hydrophytic vegetation and
	Matrix (S6)		Red Parent Ma		21) (MLF	RA 145)		nd hydrology must be present,
								s disturbed or problematic.
	ayer (if observed):							
Type:								
Depth (in	ches):						Hydric Soil Preser	nt? Yes <u>X</u> No
Remarks:	ro procent. Hydric so	sile indic	ator Redox Dark Sur	faco (E6	S) ic catio	fied		
Hyunc sons a	re present. Hydric sc	nis muic	ator Redox Dark Sur	iace (FC) is saus	ileu.		



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/18/22					
Applicant/Owner: St. Clair County		·	State: MI	Sampling Point: DP9					
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tov	wnship, Range: Section 2						
Landform (hillside, terrace, etc.): Depression	on Local re	elief (concave, conve		Slope %: <1%					
Subregion (LRR or MLRA): LRR L, MLRA 9		•	-82.5211508	 Datum: WGS84					
Soil Map Unit Name: Allendale-Hoytville con				N/A					
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)					
Are Vegetation, Soil, or Hydro	•		nal Circumstances" prese						
Are Vegetation, Soil, or Hydro			d, explain any answers in	•					
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	tions, transects, ım	portant features, etc.					
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled A	rea						
Hydric Soil Present?	Yes X No	within a Wetland?		No					
Wetland Hydrology Present?	Yes X No	If yes, optional We							
Remarks: (Explain alternative procedures he	ere or in a separate report.)								
An analysis of antecedent precipitation indicates that environmental conditions were within normal range.									
HYDROLOGY									
Wetland Hydrology Indicators:			•	ninimum of two required)					
Primary Indicators (minimum of one is requir			Surface Soil Cracks	` '					
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (I	·					
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B						
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water 1						
Water Marks (B1)	Hydrogen Sulfide Odor (C	•	Crayfish Burrows (C	,					
Sediment Deposits (B2)	Oxidized Rhizospheres o	• , ,		n Aerial Imagery (C9)					
Drift Deposits (B3)	Presence of Reduced Iro		Stunted or Stressed	, ,					
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Position						
Iron Deposits (B5)	Thin Muck Surface (C7) Other (Explain in Remark		Shallow Aquitard (D						
Inundation Visible on Aerial Imagery (B7	Microtopographic Re								
Sparsely Vegetated Concave Surface (B	38)		X FAC-Neutral Test (D)5)					
Field Observations:									
Surface Water Present? Yes	No X Depth (inches):								
Water Table Present? Yes	No X Depth (inches):								
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present?	Yes <u>X</u> No					
(includes capillary fringe)									
Describe Recorded Data (stream gauge, mo	nitoring well, aeriai pnotos, pre	vious inspections), ii	available:						
Remarks:									
Wetland hydrology is indicated.									

/EGETATION – Use scientific names of pla	ants.			Sampling Point: DP9				
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:				
1. Acer rubrum	40	Yes	FAC	Number of Dominant Species				
2. Ulmus americana	25	Yes	FACW	That Are OBL, FACW, or FAC:	5 (A)			
3. Quercus bicolor	5	No	FACW	Total Number of Dominant				
4. Betula papyrifera	5	No	FACU	Species Across All Strata:	5 (B)			
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0% (A/B)			
7				Prevalence Index worksheet:	(**=)			
· · -	75	=Total Cover			lultiply by:			
Sapling/Shrub Stratum (Plot size: 15 ft)		•		OBL species 15 x 1 =	15			
1. Frangula alnus	50	Yes	FAC	FACW species 102 x 2 =	204			
2. Fraxinus pennsylvanica	5	No	FACW	FAC species 105 x 3 =	315			
3. Rubus idaeus	5	No	FAC	FACU species 5 x 4 =	20			
4.		110	TAO	UPL species 0 x 5 =	0			
5.				Column Totals: 227 (A)				
					``			
6.				Prevalence Index = B/A =	2.44			
1.		-Total Cavar		Hydrophytic Vegetation Indicators				
Harb Chratima (Distains) 5 ft	60	=Total Cover		1 - Rapid Test for Hydrophytic Ve	egetation			
Herb Stratum (Plot size: 5 ft)	00	Vaa	EA C)A/	X 2 - Dominance Test is >50%				
1. Carex cristatella	60	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹				
2. Glyceria striata	15	No No	OBL	4 - Morphological Adaptations ¹ (F				
3. Solidago gigantea	3	No No	FACW	· ·	,			
4. Onoclea sensibilis	2	<u>No</u>	FACW	Problematic Hydrophytic Vegeta	tion' (Explain)			
5. Persicaria virginiana6.	2	No	FACW	¹ Indicators of hydric soil and wetland be present, unless disturbed or probl				
7				Definitions of Vegetation Strata:				
8				Tree – Woody plants 3 in. (7.6 cm) o	r more in			
9.				diameter at breast height (DBH), rega				
10.				Sapling/shrub – Woody plants less	than 3 in DRH			
11.				and greater than or equal to 3.28 ft (
12.			(<u> </u>	Harb All barbasasus (nan waadu)	nlanta ragardiasa			
	82	=Total Cover		Herb – All herbaceous (non-woody) pof size, and woody plants less than 3				
Woody Vine Stratum (Plot size: 15 ft)								
1. Vitis riparia	10	Yes	FAC	Woody vines – All woody vines greatheight.	iter than 3.28 it in			
2.		<u> </u>						
3.				Hydrophytic				
4.				Vegetation Present? Yes X No)			
··	10	=Total Cover			·			
	10	- 13.61 00061		<u> </u>				

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

Hydrophytic vegetation is present. Some bare ground. Sphagnum moss also present.

(inches) Color (moist) \$6. Color (moist) \$6. Type Loof Texture Remarks 0-8 10YR 3/1 100 8-18 10YR 6/2 98 10YR 5/6 2 C M Sandy Prominent redox concentrations Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Thyoric Soli Indicators: Indicators for Problematic Hydric Solis*: Indicators for Hydric Solis*: Indicators for Problematic Hydric Solis*: Indicators for Hydric Solis*: Indicators for Problematic Hydric Solis*: Indicators for Hydric Solis*: Indicators for Problematic Hydric Solis*: Indicators for Problematic Hydric Solis*: Indicators for Problematic Hydric Soli	Depth	Matrix		-	r Featu			onfirm the absence o		,	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Indicators:** Hydric Soil Indicators:** Histosol (A1)	(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	ks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Jocation: PL=Pore Lining, M=Matrix.* **Indicators: for Problematic Hydric Soils*: **Indicators for Problematic Hydric Soil Present?* **Indicators for Problematic Hydric Soils*: **Indicators for Problematic Hydric Soils*: **Indicators for Problematic Hydric Soils*: **Indicators for Problematic Hydric Soil Present?*	0-8	10YR 3/1	100					Loamy/Clayey			
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Depleted Matrix (F2) Mesic Spodic (A17) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Meric Soil Present? Remarks: Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Coast Prairie Redox (A16) (LRR K, L, R) Coast Prairie Redox (A16) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Mineral (S4) For Mucky Micky	8-18	10YR 6/2	98	10YR 5/6	2	С	<u>M</u>	Sandy	Pron	ninent redox o	concentrations
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Red Parent Material (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Red Parent Material (F21) (MLRA 145) Wetland park Surface (F22) Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:											
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, L) Thick Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Mesic Spodic (A17) Mesic Spodic (A17) Mesic Spodic (A17) Mesic Spodic (A17) Sandy Mucky Mineral (S1) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Mesic Spoil (R7) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Mesic Spoil (R7) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Mesic Spoil (R7) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Mesic Red Parent Material (F21) (MLRA 145) Mesic Spoil (R7) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Mesic Spoil (R7) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Mesic Spoil (R7) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Mesic Spoil (R7) Mesic Spoil (R7) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:											
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Black Histic (A3) MRRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (A17) Depleted Matrix (F3) Red Parent Material (F21) (outside MLRA 145) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:						ice (S8) (I	LRR R,			•	•
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Stratified Layers (A5)				Thin Dark Surfa	ace (S9) (LRR R	MLRA 1		-		
X Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (A17) Depleted Matrix (F3) Red Parent Material (F21) (outside MLRA 145) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Very Shallow Dark Surface (F22) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No											
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(MLRA 144A, 145, 149B) Redox Dark Surface (F6) Very Shallow Dark Surface (F22) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) **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	Mesic S	podic (A17)				,				· ·	
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Depth (inches): Remarks: Depth Winches (S1) Depleted Dark Surface (F7) Redox Depressions (F8) Redox Depressions (F8) All (F10) (LRR K, L) Redox Depressions (F8) All (F10) (LRR K, L) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No						- 6)					
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Depth (inches): Remarks: Redox Depressions (F8) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No						-					•
Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Depth (inches): Remarks: Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No									·	,	
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:				Marl (F10) (LR)	R K, L)	,		³ Indicato	ors of hyd	drophytic vege	etation and
Restrictive Layer (if observed): Type: Depth (inches): Remarks:		` '				-21) (MLF	RA 145)				
Type:	Restrictive	Laver (if observed):						unless	s disturbe	ed or problem	atic.
Remarks:											
	Depth (ii	nches):						Hydric Soil Prese	nt?	Yes X	No
		are present. Hydric s	oils indica	ator Depleted Below	Dark S	urface (A	11) is sat	isfied.			



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/18/22
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP10
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tov	vnship, Range: Section 2	
Landform (hillside, terrace, etc.): Flat	Local re	elief (concave, conve		Slope %: 1%
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.521056	Datum: WGS84
Soil Map Unit Name: Allendale-Hoytville con				N/A
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)
• •	•			
Are Vegetation, Soil, or Hydro			nal Circumstances" prese	
Are Vegetation, Soil, or Hydro	<u></u>		, explain any answers in	•
SUMMARY OF FINDINGS – Attach	site map showing same	pling point locat	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	202	
Hydric Soil Present?	Yes X No	within a Wetland?		No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet		<u> </u>
Remarks: (Explain alternative procedures he	ere or in a separate report.)			
An analysis of antecedent precipitation indica	,	ons were within norma	al range.	
I				
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is require	,		Surface Soil Cracks	` ,
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	•
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	· ·
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (C	,
Sediment Deposits (B2)	Oxidized Rhizospheres o	• , ,		n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Stressed	l Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Positio	n (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	03)
Inundation Visible on Aerial Imagery (B7	7)Other (Explain in Remark	(s)	Microtopographic R	elief (D4)
Sparsely Vegetated Concave Surface (B	38)		FAC-Neutral Test ([D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):		d Hydrology Present?	Yes No X
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre-	vious inspections), if a	available:	
				_
Remarks:	licated			
Wetland hydrology is neither present nor indi	icated.			

/EGETATION – Use scientific names of pla	ints.			Sampling Point:	DP10
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Pinus sylvestris	25	Yes	UPL	Number of Dominant Species	
2. Quercus bicolor	15	Yes	FACW	That Are OBL, FACW, or FAC:	3 (A)
3. Fraxinus pennsylvanica	10	No	FACW	Total Number of Dominant	
4. Populus tremuloides	5	No	FAC	Species Across All Strata:	6 (B)
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 5	50.0% (A/B)
7.				Prevalence Index worksheet:	(A/B)
	 55	=Total Cover			ıltiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)		- Total Gover		OBL species 5 x 1 =	5
1. Frangula alnus	10	Yes	FAC	FACW species 52 x 2 =	104
Fraxinus pennsylvanica	2	No	FACW	FAC species 20 x 3 =	60
3.		110	TACW	FACU species 25 x 4 =	100
4.				UPL species 25 x 5 =	125
5.				Column Totals: 127 (A)	
6.				Prevalence Index = B/A =	394 (B) 3.10
7.					3.10
· .	12	=Total Cover		Hydrophytic Vegetation Indicators:	actation
Herb Stratum (Plot size: 5 ft)	12	- Total Cover		1 - Rapid Test for Hydrophytic Veg 2 - Dominance Test is >50%	jetation
	25	Voc	FACW	3 - Prevalence Index is ≤3.0 ¹	
		Yes		4 - Morphological Adaptations ¹ (Pr	rovido oupportina
	<u>10</u> 5	Yes	FACU	data in Remarks or on a separa	
3. Glyceria striata		No No	OBL	Dueble se etie Un due ob etie Ve setetie	, ¹ (Evelsis)
4. Toxicodendron radicans	5	<u>No</u>	FAC	Problematic Hydrophytic Vegetation	on (Explain)
5				¹ Indicators of hydric soil and wetland h	
6.				be present, unless disturbed or problem	matic.
7.				Definitions of Vegetation Strata:	
8.				Tree – Woody plants 3 in. (7.6 cm) or i	
9.				diameter at breast height (DBH), regar	dless of height.
10.				Sapling/shrub – Woody plants less th	
11.				and greater than or equal to 3.28 ft (1	m) tall.
12	45	=Total Cover		Herb – All herbaceous (non-woody) ploof size, and woody plants less than 3.2	
Woody Vine Stratum (Plot size: 15 ft)		•			
1. Parthenocissus quinquefolia	15	Yes	FACU	Woody vines – All woody vines greate height.	er than 3.28 π in
2.					
3.				Hydrophytic	
4.				Vegetation Present? Yes No	Χ
	15	=Total Cover			
				<u> </u>	

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

Hydrophytic vegetation is not present. Fails the Prevalence Index at 3.10. Some bare ground present. About 45 ft separates this sampling point from its paired wetland point (DP9) with 6-8in change in elevation.

Depth	Matrix	o tile de		x Featur		ator or co	onfirm the absence o	illulcat	015.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Ren	narks	
0-12	10YR 3/1	100					Loamy/Clayey				
12-18	10YR 5/2	97	7.5YR 4/4	3	<u>C</u>	<u>M</u>	Loamy/Clayey	Dist	tinct redox	conce	ntrations
¹ Type: C=Co	ncentration, D=Deple	etion, RN	/I=Reduced Matrix, N	/IS=Mas	ked San	d Grains.	² Location: F	L=Pore l	Lining, M=	Matrix.	
Hydric Soil I							Indicators f		-		
Histosol			Dark Surface ((00) (, ,) (LRR K, L		•
Black His	ipedon (A2)		Polyvalue Belo MLRA 149B		ice (58) (LKK K,			dox (A16) (-	K, L, K) RR K, L, R)
	n Sulfide (A4)		Thin Dark Surfa	,) (I RR R	MIRA 1		-	Surface (S		-
	Layers (A5)		High Chroma S						e (S9) (LR		•
	Below Dark Surface	(A11)	Loamy Mucky								-, RR K, L, R)
	rk Surface (A12)	(, , , ,	Loamy Gleyed			···, =,		-	-		MLRA 149B)
	oodic (A17)		Depleted Matri		,						de MLRA 145)
(MLR	A 144A, 145, 149B)		Redox Dark Su	ırface (F	- 6)				rk Surface		
Sandy M	ucky Mineral (S1)		Depleted Dark	Surface	e (F7)		Other (E	xplain in	Remarks))	
Sandy G	leyed Matrix (S4)		Redox Depress	sions (F	8)						
Sandy R	edox (S5)		Marl (F10) (LR	R K, L)			³ Indicate	ors of hyd	drophytic ve	egetati	ion and
Stripped	Matrix (S6)		Red Parent Ma	ıterial (F	21) (ML i	RA 145)			ogy must b		
Restrictive L	.ayer (if observed):						unies	3 disturbe	ed or proble	emauc	
Type:	, (
Depth (in	ches):						Hydric Soil Prese	nt?	Yes	X	No
Remarks:				-							
Hydric soils a	re present. Hydric so	oils indic	ator Depleted Below	Dark S	urface (A	.11) is sat	tisfied				



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	ΓΙΟΝAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/19/22
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP11
Investigator(s): Brauna Hartzell & Caroline Br	ruchman, Mead & Hunt, Inc.	Section, Tov	wnship, Range: Section	
Landform (hillside, terrace, etc.): depression	nal drainage Local re	elief (concave, conve		Slope %: 1%
Subregion (LRR or MLRA): LRR L, MLRA 99		Long:	-82.51960	 Datum: WGS84
Soil Map Unit Name: Allendale-Hoytville com				
Are climatic / hydrologic conditions on the site		Yes X		, explain in Remarks.)
Are Vegetation, Soil, or Hydrol	•	·	nal Circumstances" pres	
	<u></u>			
Are Vegetation, Soil, or Hydrol			I, explain any answers in	
SUMMARY OF FINDINGS – Attach	site map showing samp	pling point locat	ions, transects, in	nportant features, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	'ea	
	Yes X No	within a Wetland?		No
Wetland Hydrology Present?	Yes X No	If yes, optional Wet	tland Site ID: 10A	
Remarks: (Explain alternative procedures he				
An analysis of antecedent precipitation indica	ites that environmental condition	ons were within norma	al range.	
HYDROLOGY				
Wetland Hydrology Indicators:			•	minimum of two required)
Primary Indicators (minimum of one is require	* * * * * * * * * * * * * * * * * * * *	•••	Surface Soil Crack	` '
Surface Water (A1)	X Water-Stained Leaves (B9	,9)	Drainage Patterns	
High Water Table (A2)	Aquatic Fauna (B13)		X Moss Trim Lines (E	•
Saturation (A3)	Marl Deposits (B15)	~	Dry-Season Water	
X Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (
Sediment Deposits (B2)	Oxidized Rhizospheres or	-		on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stresse	` ,
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (Co)	X Geomorphic Positi	
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (
Inundation Visible on Aerial Imagery (B7)	′ ` '	(S)	Microtopographic F	
Sparsely Vegetated Concave Surface (B	3)		X FAC-Neutral Test	(D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches): No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetiano	d Hydrology Present?	Yes <u>X</u> No
(includes capillary fringe)	-itaring wall parial photos prov	idens inapportions) if	- vallabla:	
Describe Recorded Data (stream gauge, mor	litoring well, aeriai priotos, prev	vious inspections), ii d	avaliable.	
Remarks:				
Wetland hydrology is indicated				

1.	Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
2. Ulinus americana 30 Yes FACW That Are OBL, FACW, or FAC: 6 (A)	 '				
3. Quercus bicolor					·
Species Across All Strata: 6 (8)	3. Quercus bicolor	5	No	FACW	,
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)	4.				
That Are OBL, FACW, or FAC: 100.0% (A/B)	5.				Percent of Deminant Species
Total Cover of: Multiply by:	6.				·
Sapling/Shrub Stratum (Plot size: 15 ft) 15 Yes FACW FACW species 93 x 2 = 186	7.				Prevalence Index worksheet:
1. Fraxinus pennsylvanica 1. S Yes FACW 2. Quercus bicolor 3. S Yes FACW 4. FACW species 37 x 3 = 1111 5. FACU species 0 x 4 = 0 1. UPL species 0 x 5 = 0 2. Column Totals: 155 (A) 322 (B) 3. Column Totals: 155 (A) 322 (B) 3. Frevalence Index = BIA = 2.08 4. Facuration (Plot size: 5 ft) 4. Carex cristatelia 25 Yes FACW 3. Solidago gigantea 8 No FACW 4. Persicaria virginiana 5 No FACW 5. Geum aleppicum 2 No FAC 6. Definitions of Vegetation Strata: 8. Solidago gigantea 3 Tree — Woody plants less than 3 in. DBH and greater than 0.28 ft (1 m) tall. 10. Sapling/shrub — Woody vines greater than 3.28 ft in height. 12. Moody Vine Stratum (Plot size: 15 ft) 4. Herb - All herbaceous (non-woody) plants, regardless of size, and woody vines greater than 3.28 ft in height. 4. Hydrophytic Vegetation 4. Hydrophytic Vegetation 5. Sapling/shrub — Woody vines greater than 3.28 ft in height. 4. Hydrophytic Vegetation 6. Sapling/shrub — Woody vines greater than 3.28 ft in height. 7. Hydrophytic Vegetation 7. Herb Stratum (Plot size: 15 ft) 8. Sapling/shrub — Woody vines greater than 3.28 ft in height. 9. Hydrophytic Vegetation 9. Hydrophytic Vegetation 1. Hydrophyt		70	=Total Cover		Total % Cover of: Multiply by:
2. Quercus bicolor 3. 3. Section	Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species25 x 1 =25
FACU species 0	Fraxinus pennsylvanica	15	Yes	FACW	FACW species 93 x 2 = 186
UPL species 0 x 5 = 0 Column Totals: 155 (A) 322 (B)	2. Quercus bicolor	5	Yes	FACW	FAC species 37 x 3 = 111
Column Totals: 155 (A) 322 (B)	3				FACU species0 x 4 =0
Prevalence Index = B/A = 2.08	4				UPL species0 x 5 =0
Tree - Woody Vine Stratum (Plot size:	5.				Column Totals: 155 (A) 322 (B)
Berb Stratum (Plot size:5 ft) 20=Total Cover 25	6.				Prevalence Index = B/A = 2.08
Herb Stratum (Plot size: 5 ft) 1. Carex cristatella 25 Yes FACW 2. Glyceria striata 25 Yes OBL 3. Solidago gigantea 8 No FACW 4. Persicaria virginiana 5 No FACW 5. Geum aleppicum 2 No FAC Definitions of Vegetation 1 (Explain) 6. Definitions of Vegetation Strata: 7. Definitions of Vegetation Strata: 8. Definitions of Vegetation Strata: 10. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 11. Use Stratum (Plot size: 15 ft) 1. Woody Vine Stratum (Plot size: 15 ft) 1. Woody Vine Stratum (Plot size: 15 ft) 1. Woody Vine Stratum (Plot size: 15 ft) 1. Woody Vine Stratum (Plot size: 15 ft) 1. Woody Vine Stratum (Plot size: 15 ft) 1. Woody Vine Stratum (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Stratum (Plot size: 15 ft) 1. Woody Vines Stratum (Plot size: 15 ft) 1. Woody Vines Stratum (Plot size: 15 ft) 1. Woody Vines Stratum (Plot size: 15 ft) 1. Woody Vines Stratum (Plot size: 15 ft) 1. Woody Vines Stratum (Plot size: 15 ft) 1. Woody Vines Stratum (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Plot size: 15 ft) 1. Woody Vines Treath (Provide supporting data in Remarks or on a separate sheet) 2. The Moody Vines Treath (Provide supporting data in Remarks or on a separate sheet) 2. The Moody Vines Treath (Provide supporting data in Remarks or on a separate sheet) 2. The Moody Vines Treath (Provide supporting data in Remarks or on a separate sheet) 2. The Moody Vines Treath (Provide supporting data in Remarks or on a separate sheet) 3. The Moody Vines Size Alexandria in Remarks or on a separate sheet) 4. Persically A	7				Hydrophytic Vegetation Indicators:
1. Carex cristatella 25 Yes PACW 2. Glyceria striata 25 Yes OBL 3. Solidago gigantea 8 No FACW 4. Persicaria virginiana 5 No FACW 5. Geum aleppicum 2 No FAC 8. Useria striata 8. Useria aleppicum 9. Useria striata 10. Useria aleppicum 11. Useria aleppicum 12. Useria aleppicum 13. Useria aleppicum 14. Oseptation Nerduric soil and wetland hydrology must be present, unless disturbed or problematic. 15. Useria aleppicum of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 16. Useria aleppicum 17. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 18. Useria aleppicum 19. Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 19. Useria aleppicum 10. Useria aleppicum 11. Useria aleppicum 12. Useria aleppicum 13. Useria aleppicum 14. Aleppicum Negratic soil aleppicum 15. Sapling/shrub - Woody plants less than 3 in. Useria aleppicum 16. Useria aleppicum 17. Useria aleppicum 18. Useria aleppicum 19. Useria al		20	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
2 Glyceria striata 2 Solidago gigantea 8 No FACW 4. Persicaria virginiana 5 No FACW 5. Geum aleppicum 2 No FAC 7. Definitions of Vegetation Strata: 8. Solidago gigantea 8 No FACW 4. Persicaria virginiana 5 No FACW 6. Sepum aleppicum 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 Vine Stratum (Plot size: 15 ft) 1. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No	Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%
3. Solidago gigantea 8 No FACW 4. Persicaria virginiana 5 No FACW 5. Geum aleppicum 2 No FACW 6. Definitions of Vegetation of United the present, unless disturbed or problematic. 7. Definitions of Vegetation Strata: 8. Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 10. Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 11. Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) 1. Woody vines — All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No	1. Carex cristatella	25	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
4. Persicaria virginiana 5 No FACW 5. Geum aleppicum 2 No FAC 6. Definitions of Vegetation 1 (Explain) 5 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 vines greater than 3.28 ft in height. Woody Vine Stratum (Plot size: 15 ft) 1. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No	2. Glyceria striata	25	Yes	OBL	
5. Geum aleppicum 2 No FAC 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 Vine Stratum (Plot size: 15 ft) Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No	3. Solidago gigantea	8	No	FACW	data in Remarks or on a separate sheet)
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 Vine Stratum (Plot size: 15 ft) 1.	4. Persicaria virginiana	5	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
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 Vine Stratum (Plot size: 15 ft) Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No	5. Geum aleppicum	2	No	FAC	¹ Indicators of hydric soil and wetland hydrology must
8. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 10. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 11. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) 1. Woody vines – All woody vines greater than 3.28 ft in height. 2. Hydrophytic Vegetation Present? Yes X No	6.				
9.	7				Definitions of Vegetation Strata:
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 Vine Stratum (Plot size: 15 ft) Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No	8				Tree – Woody plants 3 in. (7.6 cm) or more in
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 Vine Stratum (Plot size: 15 ft) Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No	9				diameter at breast height (DBH), regardless of height.
11	10				Sapling/shrub – Woody plants less than 3 in. DBH
Moody Vine Stratum (Plot size: 15 ft) Woody vines - All woody plants less than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No	11				
Woody Vine Stratum (Plot size: 15 ft) 1. 2. 3. 4. Hydrophytic Vegetation Present? Yes X No	12				Herb – All herbaceous (non-woody) plants, regardless
1. height. 2. Hydrophytic Vegetation Present? Yes X No		65	=Total Cover		of size, and woody plants less than 3.28 ft tall.
2	Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines greater than 3.28 ft in
3. Hydrophytic Vegetation Present? Yes X No	1				height.
3.	2				Hydrophytic
4 Present? Yes X No	3				
=Total Cover	4				=
		<u></u> _	=Total Cover		

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

Hydrophytic vegetation is present. Sphagnum moss and a large cottonwood also present. Some bare soil.

Sampling Point: DP11

Profile Desc Depth	ription: (Describe t Matrix	o the de	-	ument tl x Featur		ator or co	onfirm the absence of	f indicators	-)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-12	10YR 3/1	100					Loamy/Clayey			
12-21	10YR 5/1	97	7.5YR 5/6	3	С	M	Loamy/Clayey	Promine	nt redox con	centrations
							·			
¹Type: C=Co	oncentration, D=Depl	etion, RN	M=Reduced Matrix, N	/IS=Mas	ked San	d Grains.	² Location: P	L=Pore Linir	ng, M=Matrix	(.
Hydric Soil I	ndicators:						Indicators fo	or Problema	atic Hydric S	Soils ³ :
Histosol			Dark Surface (,					RR K, L, ML	
	ipedon (A2)		Polyvalue Belo		ce (S8) (LRR R,			(A16) (LRR	
Black His			MLRA 149B	,				-		RR K, L, R)
	n Sulfide (A4)		Thin Dark Surf						rface (S8) (L	
	l Layers (A5) I Below Dark Surface	(Δ11)	High Chroma S Loamy Mucky						69) (LRR K , sses (F12) (I	L) LRR K, L, R)
	rk Surface (A12)	(Д11)	Loamy Gleyed			K K, L)		-		(MLRA 149B)
	oodic (A17)		Depleted Matri		. –,					ide MLRA 145)
	A 144A, 145, 149B)		Redox Dark Su		- 6)				Surface (F22)	
Sandy M	lucky Mineral (S1)		Depleted Dark	Surface	(F7)		Other (E	xplain in Re	marks)	
Sandy G	leyed Matrix (S4)		Redox Depres	sions (F	8)					
	edox (S5)		Marl (F10) (LR						hytic vegeta	
Stripped	Matrix (S6)		Red Parent Ma	aterial (F	21) (MLI	RA 145)			must be pre	
Dootriotive I	aver (if absenced):						unless	disturbed o	or problemati	C.
Type:	_ayer (if observed):									
-	achae):						Uvdria Cail Dragge		Vaa V	No
Depth (in	icnes):						Hydric Soil Preser	11.7	Yes <u>X</u>	No
Remarks:		مالمان مالم	atan Danlatad Dalaw	Dank C	f (A	44) :4	ia Gad			
nyunc sons a	are present. Hydric s	ons maid	ator Depleted Below	Dark St	uriace (A	(11) is sat	isilea.			



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		(Sampling Date: 8/19/22
Applicant/Owner: St. Clair County			State:	MI	Sampling Point: DP12
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tov	vnship, Range: S	Section 25	5, T6N, R16E
Landform (hillside, terrace, etc.): Terrace		elief (concave, conve	_		Slope %: 1%
Subregion (LRR or MLRA): LRR L, MLRA 9	•	•	-82.51968	-	Datum: WGS84
Soil Map Unit Name: Allendale-Hoytville con				cation:	N/A
				•	
Are climatic / hydrologic conditions on the site	•	Yes X		•	xplain in Remarks.)
Are Vegetation, Soil, or Hydro			al Circumstance		
Are Vegetation, Soil, or Hydro	ologynaturally problema	itic? (If needed	, explain any ans	wers in F	Remarks.)
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	ions, transed	cts, imp	oortant features, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea		
Hydric Soil Present?	Yes No X	within a Wetland?		; <u></u>	No X
Wetland Hydrology Present?	Yes No X	If yes, optional We	land Site ID:		
Remarks: (Explain alternative procedures he	ere or in a separate report.)				
An analysis of antecedent precipitation indica		ons were within norm	al range.		
I					
1					
HYDROLOGY					
Wetland Hydrology Indicators:			Secondary Indic	ators (mi	nimum of two required)
Primary Indicators (minimum of one is requir	ed; check all that apply)		Surface Soi	l Cracks ((B6)
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Pa	atterns (B	10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim L	-	
Saturation (A3)	Marl Deposits (B15)		Dry-Season	Water Ta	able (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (0	C1)	Crayfish Bu	rrows (C8	3)
Sediment Deposits (B2)	Oxidized Rhizospheres o	on Living Roots (C3)	Saturation \	/isible on	Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro	on (C4)	Stunted or S	Stressed F	Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic	Position	(D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aqu		
Inundation Visible on Aerial Imagery (B7	· 	ks)	Microtopogr		
Sparsely Vegetated Concave Surface (E	38)		X FAC-Neutra	ıl Test (D	5)
Field Observations:				_	
Surface Water Present? Yes	No X Depth (inches):				
Water Table Present? Yes	No X Depth (inches):				
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Pre	sent?	Yes No _X
(includes capillary fringe)		L			
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre-	vious inspections), if	available:		
-					
Remarks: Wetland hydrology is neither present nor ind	linatad				
Wettand flydrology is ficitaled prosont hor and	icaleu.				

/EGETATION – Use scientific names of pla	Sampling Point:	DP12			
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Acer rubrum	50	Yes	FAC	Number of Dominant Species	
2. Ulmus americana	5	No	FACW	That Are OBL, FACW, or FAC:	5 (A)
3.				Total Number of Dominant	
4		<u> </u>		Species Across All Strata:	9 (B)
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC:	55.6% (A/B)
7.				Prevalence Index worksheet:	00.070 (1412)
	55	=Total Cover			ultiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)		•		OBL species 5 x 1 =	5
1. Fraxinus pennsylvanica	10	Yes	FACW	FACW species 35 x 2 =	70
2. Rosa multiflora	10	Yes	FACU	FAC species 58 x 3 =	174
3. Rubus hispidus	5	No	FACW	FACU species 140 x 4 =	560
4. Berberis thunbergii	5	No	FACU	UPL species 0 x 5 =	0
5. Frangula alnus	5	No	FAC	Column Totals: 238 (A)	809 (B)
6.		<u> </u>		Prevalence Index = B/A =	3.40
7.				Hydrophytic Vegetation Indicators:	
	35	=Total Cover		1 - Rapid Test for Hydrophytic Ve	getation
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%	
1. Solidago gigantea	10	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹	
2. Glyceria striata	5	Yes	OBL	4 - Morphological Adaptations ¹ (Pr	
3. Maianthemum canadense	5	Yes	FACU	data in Remarks or on a separa	ate sheet)
4. Carex cristatella	5	Yes	FACW	Problematic Hydrophytic Vegetation	on ¹ (Explain)
5. Galium boreale	3	No	FAC	¹ Indicators of hydric soil and wetland h	hvdrology must
6		<u> </u>		be present, unless disturbed or proble	
7				Definitions of Vegetation Strata:	
8				Tree – Woody plants 3 in. (7.6 cm) or	more in
9				diameter at breast height (DBH), rega	rdless of height.
10				Sapling/shrub – Woody plants less th	
11				and greater than or equal to 3.28 ft (1	m) tall.
12				Herb – All herbaceous (non-woody) p	
	28	=Total Cover		of size, and woody plants less than 3.2	28 ft tall.
Woody Vine Stratum (Plot size: 15 ft)				Woody vines - All woody vines great	er than 3.28 ft in
Parthenocissus quinquefolia	60	Yes	FACU	height.	
2. Celastrus orbiculatus	60	Yes	FACU	Hydrophytic	
3.				Vegetation	
4		- 		Present? Yes X No	
	120	=Total Cover			

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

Hydrophytic vegetation is present. Paper birch also present in uplands beyond tree sampling area.

Profile Desc Depth	ription: (Describe t Matrix	to the de	-	ıment tl x Featur		ator or co	onfirm the absence o	f indicato	rs.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	·ks
0-20	10YR 4/1	100					Loamy/Clayey			
20-26	10YR 6/1	95	10YR 4/6	5	С	M	Loamy/Clayey	Promir	ent redox c	concentrations
20-20	1011(0/1		1011114/0				Loamy/olaycy	1 1011111	icht redox e	oncentrations
		etion, RI	M=Reduced Matrix, M	1S=Mas	ked San	d Grains.	² Location: P			
Hydric Soil I			Dank Confess (07\			Indicators f		_	
Histosol	(AT) pipedon (A2)		Dark Surface (S		ca (S8) (I DD D			LRR K, L, I x (A16) (LF	MLRA 149B)
Black His			MLRA 149B)		ce (30) (LKK K,				(LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surfa	,) (LRR R	, MLRA 1		-		(LRR K, L)
	Layers (A5)		High Chroma S						(S9) (LRR	
Depleted	Below Dark Surface	(A11)	Loamy Mucky N	Mineral	(F1) (LR	R K, L)	Iron-Mai	nganese M	lasses (F12	2) (LRR K, L, R)
Thick Da	rk Surface (A12)		Loamy Gleyed	Matrix ((F2)		Piedmor	nt Floodpla	in Soils (F1	9) (MLRA 149B)
	oodic (A17)		Depleted Matrix							ıtside MLRA 145)
	A 144A, 145, 149B)		Redox Dark Su	•	•				Surface (F	22)
	lucky Mineral (S1)		Depleted Dark		٠, ,		Other (E	xplain in F	Remarks)	
	edox (S5)		Redox Depress		8)		³ Indicate	ore of budge	ophytic vege	otation and
	Matrix (S6)		Marl (F10) (LRI Red Parent Ma	-	:21) (MI I	2Δ 145)			gy must be	
ouipped	Watrix (00)		RCGT architivia	teriai (i	21) (IVILI	(A 140)		-	or problem	
Restrictive L	_ayer (if observed):									
Type:	,									
Depth (ir	nches):						Hydric Soil Prese	nt?	Yes	No X
Remarks:							L			
Hydric soils a	are not present. Does	not mee	et hydric soils criteria.							



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair	·	Sampling Date: 8/22/22
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP13
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, To	wnship, Range: Section 2	 25, T6N, R16E
Landform (hillside, terrace, etc.): Shallow de				Slope %: <1%
Subregion (LRR or MLRA): LRR L, MLRA 9	· · · · · · · · · · · · · · · · · · ·	•	-82.520261	Datum: WGS84
Soil Map Unit Name: Allendale-Hoytville com			•	
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)
Are Vegetation, Soil, or Hydro			nal Circumstances" prese	
Are Vegetation, Soil, or Hydro	logynaturally problemate	tic? (If needed	d, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	tions, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled A	rea	
Hydric Soil Present?	Yes X No	within a Wetland?		No
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 10A	
Remarks: (Explain alternative procedures he An analysis of antecedent precipitation indica		ons were within norm	al range.	
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (n	ninimum of two required)
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks	s (B6)
Surface Water (A1)	X Water-Stained Leaves (B	39)	Drainage Patterns (
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	·
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	
X Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (C	<i>'</i>
Sediment Deposits (B2)	Oxidized Rhizospheres o	= : :		on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro	` '	Stunted or Stressed	
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Positio	
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	•
Inundation Visible on Aerial Imagery (B7	·—	(S)	Microtopographic R	, ,
Sparsely Vegetated Concave Surface (B	58)		FAC-Neutral Test (I	J5)
Field Observations:	No. V Donth (inches):			
Surface Water Present? Yes Water Table Present? Yes	No X Depth (inches): _ No X Depth (inches): _			
	No X Depth (inches): _ No X Depth (inches): _		d Hydrology Present?	Vos Y No
Saturation Present? Yes (includes capillary fringe)	NO A Deput (inches).		a Hydrology Flesein:	Yes <u>X</u> No
Describe Recorded Data (stream gauge, mo	nitoring well_aerial photos, pre	I	available [.]	
2000120 1 10001404 2542 (51104 3415-;	Thioming Won, dod. p. 10104, p. 1	vious mopesus,,	availabio.	
Remarks: Wetland hydrology is indicated. More than 5 (B8).	percent vegetative cover in her	rbaceous layer so do	es not meet Sparsely Ve	getated Concance Surface

/EGETATION – Use scientific names of plants.				Sampling Point:	DP13	
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. Acer rubrum	25	Yes	FAC	Number of Dominant Species		
2. Tilia americana	25	Yes	FACU	That Are OBL, FACW, or FAC:	4 (A)	
3. Quercus bicolor	10	No	FACW	Total Number of Dominant		
4. Carpinus caroliniana	5	No	FAC	Species Across All Strata: 7 (B)		
5.				Percent of Dominant Species		
6.				•	57.1% (A/B)	
7				Prevalence Index worksheet:		
	65	=Total Cover		Total % Cover of: M	ultiply by:	
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 =	0	
1. Fraxinus pennsylvanica	25	Yes	FACW	FACW species 40 x 2 =	80	
2. Carpinus caroliniana	10	Yes	FAC	FAC species 42 x 3 =	126	
3. Ribes cynosbati	10	Yes	FACU	FACU species 45 x 4 =	180	
4. Berberis thunbergii	5	No	FACU	UPL species 0 x 5 =	0	
5.				Column Totals: 127 (A)	386 (B)	
6.				Prevalence Index = B/A =	3.04	
7.				Hydrophytic Vegetation Indicators:		
	50	=Total Cover		1 - Rapid Test for Hydrophytic Ve	egetation	
Herb Stratum (Plot size: 5 ft)		•		X 2 - Dominance Test is >50%		
1. Doellingeria umbellata	5	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹		
2. Fragaria virginiana	3	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporting		
3. Toxicodendron radicans	2	No	FAC	data in Remarks or on a separate sheet)		
4. Geranium maculatum	2	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)		
5 6				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
7				Definitions of Vegetation Strata:		
8.				Tree – Woody plants 3 in. (7.6 cm) or more in		
9				diameter at breast height (DBH), regardless of height.		
10				Sapling/shrub – Woody plants less t	han 3 in DBH	
11				and greater than or equal to 3.28 ft (1		
12		. <u></u>		Herb – All herbaceous (non-woody) p	plants, regardless	
	12	=Total Cover		of size, and woody plants less than 3.28 ft tall.		
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woody vines greatheight.	ter than 3.28 ft in	
2.						
3.				Hydrophytic Vegetation		
4.				Present? Yes X No		
		=Total Cover				
Remarks: (Include photo numbers here or on a sena	rate sheet \	=				

Sphagnum moss present. Mostly bare surface, moist woods. Hydrophytic vegetation is present.

Depth	ription: (Describe t Matrix	to the de	•	ıment ti x Featur		ator or co	onfirm the absence o	f indicator	rs.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	S
0-12	10YR 3/1	100					Loamy/Clayey			
12-20	10YR 5/1	90	10YR 5/6	10	С	M	Loamy/Clayey	Promin	ent redox co	oncentrations
12-20	1011(3/1	30	10110 3/0			IVI	Loanly/Clayey	1 10111111	ent redox co	ncentiations
							_			
		etion, RN	M=Reduced Matrix, M	1S=Mas	ked San	d Grains.	² Location: P		_	
Hydric Soil I			Dark Surface (C7)			Indicators fo		_	
Histosol (A1) Histic Epipedon (A2) — Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R,					I RR R	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)				
Black Histic (A3) MLRA 149B)				LIXIX IX,				(LRR K, L, R)		
Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA				, MLRA 1		-	urface (S8) (
	Layers (A5)		High Chroma S						(S9) (LRR K	
X Depleted	d Below Dark Surface	e (A11)	Loamy Mucky I	Mineral	(F1) (LR	RK,L)	Iron-Mar	nganese M	asses (F12)	(LRR K, L, R)
Thick Da	rk Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmor	nt Floodpla	in Soils (F19) (MLRA 149B)
	oodic (A17)		Depleted Matrix							side MLRA 145)
	A 144A, 145, 149B)		Redox Dark Su	•	,		Very Shallow Dark Surface (F22) Other (Explain in Remarks)			2)
	lucky Mineral (S1)		Depleted Dark				Other (E	xplain in R	lemarks)	
	edox (S5)		Redox Depress Marl (F10) (LRI		0)		³ Indicato	are of hydro	anhytic yeaet	tation and
	Matrix (S6)		Red Parent Ma		21) (MI I	RA 145)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,			
	main (55)			torial (i		,	unless disturbed or problematic.			
Restrictive I	_ayer (if observed):								<u>'</u>	
Type:										
Depth (ir	nches):						Hydric Soil Preser	nt?	Yes X	No
Remarks:										
Hydric soils a	are present. Hydric s	oil indica	ator Depleted Below [Dark Su	rface (A1	1) is satis	sfied.			



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	ATIONAL AIRPORT (PHN)	City/County: St Clair		Sa	ampling Date: 8/22/22			
Applicant/Owner: St. Clair County		·	State:	MI :	Sampling Point: DP14			
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tow	vnship, Range: Se					
Landform (hillside, terrace, etc.): Terrace		relief (concave, conve			Slope %: 1-2%			
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.520195		Datum: WGS84			
Soil Map Unit Name: Allendale-Hoytville con				cation: N	_			
Are climatic / hydrologic conditions on the site	•	Yes X			lain in Remarks.)			
Are Vegetation, Soil, or Hydro			al Circumstances	•				
re Vegetation, Soil, or Hydrologynaturally 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 Ar	ea					
Hydric Soil Present?	Yes No X	within a Wetland?			lo X			
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:					
Remarks: (Explain alternative procedures he								
An analysis of antecedent precipitation indica		ons were within norma	al range.					
I								
I								
I								
HYDROLOGY								
Wetland Hydrology Indicators:			Secondary Indica	ators (minii	mum of two required)			
Primary Indicators (minimum of one is requir	red; check all that apply)		Surface Soil	Cracks (B	6)			
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Pa	itterns (B10	0)			
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim L					
Saturation (A3)	Marl Deposits (B15)		Dry-Season		le (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (0	· ·	Crayfish Bur	` '				
Sediment Deposits (B2)	Oxidized Rhizospheres o	= : : :			erial Imagery (C9)			
Drift Deposits (B3)	Presence of Reduced Iro	• •	Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	· · · · · · · · · · · · · · · · · · ·					
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7	·	ks)	Microtopogra	•	f (D4)			
Sparsely Vegetated Concave Surface (E	38)	<u>, </u>	FAC-Neutral	Test (D5)				
Field Observations:								
Surface Water Present? Yes	No X Depth (inches):							
Water Table Present? Yes	No X Depth (inches):			-				
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Pres	sent?	Yes No_X_			
(includes capillary fringe)								
Describe Recorded Data (stream gauge, mo	nitoring well, aeriai photos, pre	vious inspections), it a	available:					
Remarks:								
Wetland hydrology is neither present nor ind	licated.							
Trouble in the second of the s	Toute a.							

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. Tilia americana	50	Yes	FACU			
2. Carpinus caroliniana	20	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)		
3. Prunus serotina	10	No	FACU	Total Number of Dominant		
4.				Species Across All Strata: 7 (B)		
5.				Percent of Dominant Species		
6.				That Are OBL, FACW, or FAC: 57.1% (A/B)		
7.				Prevalence Index worksheet:		
	80	=Total Cover		Total % Cover of: Multiply by:		
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 = 0		
1. Fraxinus pennsylvanica	25	Yes	FACW	FACW species 35 x 2 = 70		
2. Ribes cynosbati	10	Yes	FACU	FAC species 32 x 3 = 96		
3.				FACU species140 x 4 =560		
4				UPL species 0 x 5 = 0		
5				Column Totals: 207 (A) 726 (B)		
6.	-			Prevalence Index = B/A = 3.51		
7				Hydrophytic Vegetation Indicators:		
	35	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation		
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%		
1. Fraxinus pennsylvanica	10	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹		
2. Carpinus caroliniana	10	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supportin		
3. Circaea canadensis	5	No	FACU	data in Remarks or on a separate sheet)		
4. Persicaria virginiana	2	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
5				¹ Indicators of hydric soil and wetland hydrology must		
6.				be present, unless disturbed or problematic.		
7				Definitions of Vegetation Strata:		
8				Tree – Woody plants 3 in. (7.6 cm) or more in		
9				diameter at breast height (DBH), regardless of height.		
10				Sapling/shrub – Woody plants less than 3 in. DBH		
11				and greater than or equal to 3.28 ft (1 m) tall.		
12				Herb – All herbaceous (non-woody) plants, regardless		
	27	=Total Cover		of size, and woody plants less than 3.28 ft tall.		
Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines greater than 3.28 ft in		
1. Celastrus orbiculatus	60	Yes	FACU	height.		
2. Parthenocissus quinquefolia	5	No	FACU	Hydrophytic		
3.				Vegetation		
4				Present? Yes X No No		
	65	=Total Cover				

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

Hydrophytic vegetation is present. Cherry along boundary. About 18 ft separates this sampling point from its paired wetland sampling point (DP13) with 6-8 inches change in elevation.

Sampling Point: DP14

Profile Desc Depth	ription: (Describe t Matrix	to the de	th needed to document the indicator or co Redox Features		onfirm the absence o	of indicators.)					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	ks	
0-8	10YR 3/2	100					Loamy/Clayey				
8-18	10YR 6/3	99	10YR 5/8	1	С	M	Sandy	Promin	ent redox c	oncentrations	
0-10	10111 0/3		10111 3/0	<u> </u>			Garidy	1 10111111	CITE TOUGH C	Oncontrations	
							_				
¹Type: C=Co	ncentration, D=Depl	etion, RN	M=Reduced Matrix, N	√S=Mas	ked San	d Grains.	² Location: F	L=Pore Lin	ning, M=Mat	trix.	
Hydric Soil I		-	·				Indicators f				
Histosol	(A1)		Dark Surface (S7)			2 cm Mu	ıck (A10) (L	LRR K, L, N	/ILRA 149B)	
Histic Ep	ipedon (A2)		Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K,					RR K, L, R)			
Black His	stic (A3)		MLRA 149B)			5 cm Mu	icky Peat o	r Peat (S3)	(LRR K, L, R)	
Hydroge	n Sulfide (A4)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1	149B) Polyvalu	ie Below Si	urface (S8)	(LRR K, L)	
	Layers (A5)		High Chroma S						(S9) (LRR I		
	Below Dark Surface	e (A11)	Loamy Mucky Mineral (F1) (LRR K, L)			RK, L)		_) (LRR K, L, R)	
	rk Surface (A12)		Loamy Gleyed		F2)					9) (MLRA 149B)	
	oodic (A17)		Depleted Matri		-0)					tside MLRA 145)	
	A 144A, 145, 149B) ucky Mineral (S1)		Redox Dark Su Depleted Dark						Surface (F2	22)	
	leyed Matrix (S4)		Redox Depres				Other (E	explain in R	emarks)		
	edox (S5)		Marl (F10) (LR		0)		³ Indicate	ors of hydro	nhytic veae	etation and	
	Matrix (S6)		Red Parent Ma		21) (M LI	RA 145)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,				
	(,			(, (,	unless disturbed or problematic.				
Restrictive L	ayer (if observed):								•		
Type:											
Depth (in	iches):						Hydric Soil Prese	nt?	Yes	No X	
Remarks:							I				
Hydric soils a	re not present. Does	not mee	et hydric soils criteria								



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/23/22				
Applicant/Owner: St. Clair County		- -	State: MI	Sampling Point: DP15				
Investigator(s): Brauna Hartzell & Caroline B	ruchman, Mead & Hunt, Inc.	_ Section, Tov	wnship, Range: Section					
Landform (hillside, terrace, etc.): Depression	on Local re	relief (concave, conve	x, none): Concave	Slope %: <1%				
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.519636	Datum: WGS84				
Soil Map Unit Name: Allendale-Hoytville con		hB)(Partially Hydri	c) NWI classification:	N/A				
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)				
Are Vegetation, Soil, or Hydro			nal Circumstances" prese					
	<u></u>		•					
Are Vegetation, Soil, or Hydrologynaturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.								
סטווווא די סר רווישטוועס – Attach site map showing sampling point locations, transects, important features, etc.								
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea					
Hydric Soil Present?	Yes X No	within a Wetland?		No				
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 10A					
Remarks: (Explain alternative procedures he		. Mala in a same						
An analysis of antecedent precipitation indica	ates that environmental condition	ons were within norm	al range.					
HYDROLOGY								
Wetland Hydrology Indicators:			Secondary Indicators (r	minimum of two required)				
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks					
Surface Water (A1)	X Water-Stained Leaves (B	39)	Drainage Patterns	` '				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)						
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)						
X Water Marks (B1)	Hydrogen Sulfide Odor (0							
Sediment Deposits (B2)	Oxidized Rhizospheres o			on Aerial Imagery (C9)				
Drift Deposits (B3)	Presence of Reduced Iro	• , ,	Stunted or Stresse	=				
Algal Mat or Crust (B4)	Recent Iron Reduction in		X Geomorphic Position	, ,				
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (I					
Inundation Visible on Aerial Imagery (B7		ks)	Microtopographic F					
X Sparsely Vegetated Concave Surface (B	·— · · ·	(3)	X FAC-Neutral Test (
Field Observations:				,				
Surface Water Present? Yes	No X Depth (inches):							
	No X Depth (inches):							
Saturation Present? Yes	No X Depth (inches):		d Hydrology Present?	Yes X No				
(includes capillary fringe)	No X Dopar (money).		a Hydrology i 1000	160 <u>/</u>				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre	vious inspections), if	available:					
2000,000 . 1000,000 2000 (20 2000 200 200 200 200 200 20	, , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , ,						
Remarks:								
Wetland hydrology is indicated.								

/EGETATION – Use scientific names of pla	Sampling Point:	DP15			
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Acer rubrum	70	Yes	FAC	Number of Dominant Species	
2. Populus deltoides	20	Yes	FAC	That Are OBL, FACW, or FAC:	5 (A)
3. Ulmus americana	10	No	FACW	Total Number of Dominant	
4	-			Species Across All Strata:	5 (B)
5	-			Percent of Dominant Species	
6				That Are OBL, FACW, or FAC:1	00.0% (A/B)
7				Prevalence Index worksheet:	
	100	=Total Cover		Total % Cover of: Mu	ıltiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 5 x 1 =	5
1. Fraxinus pennsylvanica	15	Yes	FACW	FACW species 25 x 2 =	50
2				FAC species 90 x 3 =	270
3				FACU species 0 x 4 =	0
4				UPL species0 x 5 =	0
5				Column Totals: 120 (A)	325 (B)
6.				Prevalence Index = B/A =	2.71
7.				Hydrophytic Vegetation Indicators:	<u> </u>
	15	=Total Cover		1 - Rapid Test for Hydrophytic Ve	getation
Herb Stratum (Plot size: 5 ft)		-		X 2 - Dominance Test is >50%	
1. Glyceria striata	3	Yes	OBL	X 3 - Prevalence Index is ≤3.0 ¹	
2. Carex vulpinoidea 3.	2	Yes	OBL	4 - Morphological Adaptations ¹ (Pr	
4.				Problematic Hydrophytic Vegetation	on ¹ (Explain)
5 6				¹ Indicators of hydric soil and wetland he present, unless disturbed or problet	
7				Definitions of Vegetation Strata:	
8				Tree – Woody plants 3 in. (7.6 cm) or	more in
9	-			diameter at breast height (DBH), regar	
10				Sapling/shrub – Woody plants less th	nan 3 in. DBH
11				and greater than or equal to 3.28 ft (1	
12	5	=Total Cover		Herb – All herbaceous (non-woody) pl of size, and woody plants less than 3.2	
Woody Vine Stratum (Plot size: 15 ft)		-		Manda vines All woods vines great	or than 2 20 ft in
1.				Woody vines – All woody vines greate height.	31 than 3.20 it in
2.					
3.		·		Hydrophytic	
4.				Vegetation Present? Yes X No	
		=Total Cover			
		•		1	

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

Hydrophytic vegetation is present. Carex lupulina also present within wetland; surface is mostly bare. Two dead green ash trees were observed, likely dead from emerald ash borer and were not included in the cover calculations.

Depth	Matrix		-	x Featur	res		onfirm the absence o			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	3
0-5	10YR 3/1						Loamy/Clayey			
5-10	10YR 4/1	99	10YR 4/6	1	С	М	Loamy/Clayey	Prominent	t redox cor	ncentrations
10-21	10YR 5/1	95	10YR 6/6	5	C	M	Loamy/Clayey	Prominent	t redox cor	ncentrations
1Typo: C=C		otion D	M=Reduced Matrix, M		wood Son	d Crains	² l coation: [L=Pore Lining	- M-Motri	iv.
Hydric Soil I		HOII, KI	vi=Reduced Matrix, iv	15-IVIAS	skeu San	u Grains.		for Problemat		
Histosol			Dark Surface (S	S7)				uck (A10) (LRI	-	
Histic Ep	oipedon (A2)		Polyvalue Belo	w Surfa	ce (S8) (LRR R,	Coast P	Prairie Redox (A	A16) (LRR	R K, L, R)
Black His	` '		MLRA 149B)	,				ucky Peat or P		
	n Sulfide (A4)		Thin Dark Surfa					ue Below Surfa		
	l Layers (A5)	(444)	High Chroma S					irk Surface (S9		
	d Below Dark Surface ark Surface (A12)	(A11)	Loamy Mucky N			RK, L)		nganese Mass		
	oodic (A17)		Loamy Gleyed X Depleted Matrix		(Г2)) (MLRA 149B) side MLRA 145
	A 144A, 145, 149B)		Redox Dark Su		- 6)			nallow Dark Su		
	lucky Mineral (S1)		Depleted Dark					Explain in Rem		-,
	sleyed Matrix (S4)		Redox Depress						,	
	edox (S5)		Marl (F10) (LRI				³ Indicate	ors of hydroph	ytic vegeta	ation and
Stripped	Matrix (S6)		Red Parent Ma		21) (ML i	RA 145)				
							unles	s disturbed or	problemat	tic.
	Layer (if observed):									
Type:			<u> </u>				Unidais Cail Bassas	42 V	V	Na
	nches):						Hydric Soil Prese	nt? Yo	es X	No
Remarks:	are present. Hydric so	oils indic	cator Depleted Matrix	(F3) is	satisfied					
11,4110 00110 0	are precent. Tryane et	Jilo II Idio	ator Boprotod Matrix	(1 0) 10	outionou.					



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 8/23/22					
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP16					
Investigator(s): Brauna Hartzell & Caroline B	Bruchman, Mead & Hunt, Inc.	Section, Tov	vnship, Range: Section 2						
Landform (hillside, terrace, etc.): Terrace	Local re	elief (concave, conve		Slope %: 1-2%					
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.519553	 Datum: WGS84					
Soil Map Unit Name: Allendale-Hoytville com				N/A					
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)					
Are Vegetation, Soil, or Hydro	•	•	nal Circumstances" prese						
Are Vegetation, Soil, or Hydro			, explain any answers in						
	<u></u>			•					
SUMMARY OF FINDINGS – Attacn	SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.								
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	ea						
Hydric Soil Present?	Yes X No	within a Wetland?		No X					
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:						
Remarks: (Explain alternative procedures he	,								
An analysis of antecedent precipitation indica	ates that environmental condition	ons were within norma	al range.						
I									
I									
HYDROLOGY									
Wetland Hydrology Indicators:				ninimum of two required)					
Primary Indicators (minimum of one is require	,		Surface Soil Cracks	, ,					
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (•					
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)							
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)							
Water Marks (B1)	Hydrogen Sulfide Odor (C								
Sediment Deposits (B2)	Oxidized Rhizospheres o	• , ,	Saturation Visible or	n Aerial Imagery (C9)					
Drift Deposits (B3)	Presence of Reduced Iron	on (C4)	Stunted or Stressed	Plants (D1)					
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position (D2)						
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	3)					
Inundation Visible on Aerial Imagery (B7	Other (Explain in Remark	<s)< td=""><td>Microtopographic R</td><td>elief (D4)</td></s)<>	Microtopographic R	elief (D4)					
Sparsely Vegetated Concave Surface (B	38)		FAC-Neutral Test (05)					
Field Observations:									
Surface Water Present? Yes	No X Depth (inches):								
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):								
Saturation Present? Yes	No X Depth (inches):		d Hydrology Present?	Yes No _X					
(includes capillary fringe)									
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre	vious inspections), if a	available:						
Remarks:	0								
Wetland hydrology is neither present nor indi	icated.								

/EGETATION – Use scientific names of pla	Sampling Point:	DP16				
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. Acer rubrum	30	Yes	FAC	Number of Dominant Species		
2. Betula papyrifera	10	Yes	FACU	That Are OBL, FACW, or FAC:	3 (A)	
3. Ulmus americana	10	Yes	FACW	Total Number of Dominant		
4				Species Across All Strata:	7 (B)	
5				Percent of Dominant Species		
6				·	42.9% (A/B)	
7				Prevalence Index worksheet:		
	50	=Total Cover		Total % Cover of: Mu	ultiply by:	
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 =	0	
1. Rosa multiflora	20	Yes	FACU	FACW species 20 x 2 =	40	
2. Viburnum lentago	15	Yes	FAC	FAC species 50 x 3 =	150	
3. Fraxinus pennsylvanica	5	No	FACW	FACU species 115 x 4 =	460	
4. Quercus bicolor	5	No	FACW	UPL species 0 x 5 =	0	
5. Berberis thunbergii	5	No	FACU	Column Totals: 185 (A)	650 (B)	
6. Rhamnus cathartica	5	No	FAC	Prevalence Index = B/A =	3.51	
7.				Hydrophytic Vegetation Indicators:		
	55	=Total Cover		1 - Rapid Test for Hydrophytic Ve	getation	
Herb Stratum (Plot size: 5 ft)	· 			2 - Dominance Test is >50%		
1				3 - Prevalence Index is ≤3.0 ¹		
2.		·		4 - Morphological Adaptations ¹ (Provide supporting		
3.		·		data in Remarks or on a separate sheet)		
4.				Problematic Hydrophytic Vegetation	on ¹ (Explain)	
5				¹ Indicators of hydric soil and wetland h		
6.				be present, unless disturbed or proble	matic.	
7		<u> </u>		Definitions of Vegetation Strata:		
8				Tree – Woody plants 3 in. (7.6 cm) or		
9		<u> </u>		diameter at breast height (DBH), regal	rdless of height.	
10		<u> </u>		Sapling/shrub – Woody plants less th		
11		<u> </u>		and greater than or equal to 3.28 ft (1	m) tall.	
12.		=Total Cover		Herb – All herbaceous (non-woody) plof size, and woody plants less than 3.3		
Woody Vine Stratum (Plot size:15 ft)				Woody vines – All woody vines great	ter than 3 28 ft in	
1. Celastrus orbiculatus	60	Yes	FACU	height.	or than 0.20 it in	
2. Parthenocissus quinquefolia	20	Yes	FACU			
3				Hydrophytic Vegetation		
4.					X	
	80	=Total Cover				
		•				

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

Hydrophytic vegetation is not present. Little is present in herbaceous stratum, likely due to shading of heavy shrub and vine layers. About 25 ft separates this sampling point from its paired wetland sampling point (DP15) with 6-8 inches change in elevation

Depth	cription: (Describe) Matrix	to the de	-	ument ti x Featur		ator or co	onfirm the absence o	findicator	'S.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	s
0-12	10YR 3/1	100					Loamy/Clayey			
12-20	10YR 6/1	80	10YR 5/6	20	С	M	Loamy/Clayey	Promin	ent redox co	oncentrations
	10111071		10111070				Loaniy, olayoy	1 10111111	One rodox oo	A TOOTH A GOTO
1 _{Type:} C=C	oncentration, D=Dep	lotion DA	4-Poduced Matrix N		kod Son	d Crains	² Location: P	I -Doro Lin	ing M-Mot	
Hydric Soil		ietion, Ri	/i-Reduced Matrix, N	/IS-IVIAS	keu San	u Grains.	Indicators for		_	
Histosol			Dark Surface (S7)					LRR K, L, M	
_					et Prairie Redox (A16) (LRR K, L, R)					
Black Histic (A3) MLRA 149B)							(LRR K, L, R)			
Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA				49B) Polyvalu	e Below Su	urface (S8) ((LRR K, L)			
	d Layers (A5)		High Chroma S						(S9) (LRR K	-
	d Below Dark Surface	e (A11)	Loamy Mucky			R K, L)	Iron-Manganese Masses (F12) (LRR K, L, R)			
	ark Surface (A12)		Loamy Gleyed		F2)					9) (MLRA 149B)
	podic (A17) A 144A, 145, 149B)		Depleted Matri		·6)				Surface (F2	side MLRA 145)
	fucky Mineral (S1)		Depleted Dark	•	•			Explain in R		2)
	Gleyed Matrix (S4)		Redox Depress						,	
Sandy R	Redox (S5)		Marl (F10) (LR	R K, L)			³ Indicators of hydrophytic vegetation and			
Stripped	Matrix (S6)		Red Parent Ma	aterial (F	21) (ML i	RA 145)	wetland hydrology must be present,			
							unless	disturbed	or problema	itic.
	Layer (if observed):									
Type:										
Depth (ii	nches):						Hydric Soil Presei	nt?	Yes X	No
Remarks:										
Hydric soils	are present. Hydric s	soils indic	ator Depleted Below	Dark St	urface (A	(11) is sat	istied.			



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/3/22				
Applicant/Owner: St. Clair County			State:	MI Sampling Point: DP17				
Investigator(s): Brauna Hartzell, Mead & Hun	nt, Inc.	Section, To	wnship, Range: Sec	ction 35, T6N, R16E				
Landform (hillside, terrace, etc.): Basin		elief (concave, conve		Slope %: <1				
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.538013	Datum: WGS84				
Soil Map Unit Name: Wainola-Deford fine sa								
								
Are climatic / hydrologic conditions on the site		Yes	<u> </u>	f no, explain in Remarks.)				
Are Vegetation, Soil, or Hydrol			nal Circumstances"					
re Vegetation, Soil, or Hydrologynaturally 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 A	rea					
Hydric Soil Present?	Yes X No	within a Wetland?		X No				
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 8A	<u> </u>				
Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Data point taken within deperssional basin.								
 HYDROLOGY								
Wetland Hydrology Indicators:			Secondary Indicate	ors (minimum of two required)				
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil C					
Surface Water (A1)	Water-Stained Leaves (B	(9)	Drainage Patte	erns (B10)				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)						
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)						
Water Marks (B1)	Hydrogen Sulfide Odor (C	or (C1) Crayfish Burrows (C8)						
Sediment Deposits (B2)	Oxidized Rhizospheres or	es on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)						
Drift Deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Stre	essed Plants (D1)				
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Position (D2)					
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquita					
Inundation Visible on Aerial Imagery (B7	· · · ·	(s)	Microtopograp					
Sparsely Vegetated Concave Surface (B	.8)		X FAC-Neutral T	est (D5)				
Field Observations:								
Surface Water Present? Yes	No X Depth (inches):							
Water Table Present? Yes	No X Depth (inches):							
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Prese	ent? Yes X No				
(includes capillary fringe)		· · · · · · · · · · · · · · · · · · ·						
Describe Recorded Data (stream gauge, mor	nitoring well, aeriai photos, prev	vious inspections), ir	available:					
Remarks: Wetland hydrology is indicated.								
Wettand hydrology is indicated.								

 VEGETATION – Use scientific names of plants.
 Sampling Point:
 DP17

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	50	Yes	FAC	
2.				Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
3				Total Number of Dominant
4				Species Across All Strata: 4 (B)
5		<u> </u>		Percent of Dominant Species
6		. <u> </u>		That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
	50	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species30 x 1 =30
Cephalanthus occidentalis	30	Yes	OBL	FACW species 70 x 2 = 140
2. Frangula alnus	15	Yes	FAC	FAC species65 x 3 =195
3				FACU species0 x 4 =0
4				UPL species 0 x 5 = 0
5.				Column Totals: 165 (A) 365 (B)
6.				Prevalence Index = B/A = 2.21
7.				Hydrophytic Vegetation Indicators:
	45	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5 ft)		!		X 2 - Dominance Test is >50%
1. Phragmites australis	70	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12.	70	Tatal Carra		Herb – All herbaceous (non-woody) plants, regardless
	70	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woody vines greater than 3.28 ft in height.
2.				- reigna
3.				Hydrophytic
4				Vegetation Present? Yes X No
4.		=Total Cover		105 <u>X</u> 105
Remarks: (Include photo numbers here or on a separ	rate sheet.)	1		
Hydrophytic vegetation is present Large stand of phi		h fringe of large	er trees and s	hrubs.

Depth	cription: (Describe to Matrix	o rue de	-	u ment t i x Featur		ator or co	onfirm the absence of	muicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	S
0-4	10YR 5/3	100					Loamy/Clayey			
4-10	10YR 5/2	97	7.5YR 5/6	3	С	M	Sandy	Prominent r	edox co	ncentrations
10-20	10YR 6/2	100					Sandy			
			-							
¹Type: C=Co	oncentration, D=Deple	etion, RI	M=Reduced Matrix, N	/IS=Mas	ked San	d Grains.	² Location: PL	=Pore Lining,	M=Matri	ix.
Hydric Soil	Indicators:						Indicators for	r Problematic	Hydric	Soils ³ :
Histosol	• •		Dark Surface (,				k (A10) (LRR		
	pipedon (A2)		Polyvalue Belo		ice (S8) (LRR R,		airie Redox (A1		
Black His	` '		MLRA 149B	•	\	MIDAA		ky Peat or Pea		
	n Sulfide (A4)		Thin Dark Surf					Below Surfac		
	Layers (A5)	(111)	X High Chroma S					Surface (S9)		
	d Below Dark Surface ark Surface (A12)	(A11)	Loamy Mucky			K K, L)		ganese Masse		
	oodic (A17)		Loamy Gleyed Depleted Matri		(1 2)) (MLRA 149B) side MLRA 145)
	A 144A, 145, 149B)		Redox Dark Su		- 6)			llow Dark Surfa		
•	lucky Mineral (S1)		Depleted Dark					plain in Rema		-,
	Sleyed Matrix (S4)		Redox Depress		, ,			p.a		
X Sandy R	• , ,		Marl (F10) (LR	•	-,		³ Indicators	s of hydrophyt	ic vegeta	ation and
	Matrix (S6)		Red Parent Ma		21) (ML i	RA 145)	wetland hydrology must be present,			
							unless	disturbed or pr	roblemat	tic.
	Layer (if observed):									
Type:								_		
Depth (ir	nches):						Hydric Soil Present	i? Yes	s <u>X</u>	No
Remarks:		- 01 - 11 - 11 -) =	Litada Ola		d- (044)			
Hydric soils a	are present. Hydric so	olis inaid	ator Sandy Redox (S	55) and	High Chr	oma San	ds (S11) are satisfied.			



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	ATIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/3/22					
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP17					
Investigator(s): Brauna Hartzell, Mead & Hu	int, Inc.	Section, To	wnship, Range: Section 3	 35, T6N, R16E					
Landform (hillside, terrace, etc.): Basin	Local re	elief (concave, conve	x, none): Concave	Slope %: <1					
Subregion (LRR or MLRA): LRR L, MLRA			-82.538013	Datum: WGS84					
Soil Map Unit Name: Wainola-Deford fine s									
·				explain in Remarks.)					
Are climatic / hydrologic conditions on the sit		Yes_							
Are Vegetation, Soil, or Hydr			nal Circumstances" prese						
Are Vegetation, Soil, or Hydr	<u></u>		l, explain any answers in						
SUMMARY OF FINDINGS – Attach	ı site map showing samı	pling point loca	tions, transects, im	portant features, etc.					
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled A	rea						
Hydric Soil Present?	Yes X No	within a Wetland	? Yes_X_	No					
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 8A						
Remarks: (Explain alternative procedures had analysis of antecedent precipitation indicates).	,	ons were drier than n	ormal range. Data point	taken within depressional					
HYDROLOGY									
Wetland Hydrology Indicators:			Secondary Indicators (n	ninimum of two required)					
Primary Indicators (minimum of one is requi	red; check all that apply)		Surface Soil Cracks	s (B6)					
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	·					
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water						
Water Marks (B1)	Hydrogen Sulfide Odor (0		Crayfish Burrows (C	′					
Sediment Deposits (B2)	Oxidized Rhizospheres o	-		n Aerial Imagery (C9)					
Drift Deposits (B3)	Presence of Reduced Iro		Stunted or Stressed	` '					
Algal Mat or Crust (B4) Iron Deposits (B5)	Recent Iron Reduction in Thin Muck Surface (C7)	Tilled Solis (Co)	X Geomorphic Position Shallow Aquitard (E						
Inundation Visible on Aerial Imagery (B		(e)	Microtopographic R	,					
Sparsely Vegetated Concave Surface (· —	(3)	X FAC-Neutral Test (I						
Field Observations:			<u></u>						
Surface Water Present? Yes	No X Depth (inches):								
Water Table Present? Yes	No X Depth (inches):								
Saturation Present? Yes	No X Depth (inches):		d Hydrology Present?	Yes X No					
(includes capillary fringe)									
Describe Recorded Data (stream gauge, me	onitoring well, aerial photos, pre	vious inspections), if	available:						
Remarks: Wetland hydrology is indicated.									

/EGETATION – Use scientific names of plants. Sampling Point: DP17

<u>Tree Stratum</u> (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	50	Yes	FAC	Number of Dominant Species
2.				That Are OBL, FACW, or FAC: 4 (A)
3.				Total Number of Dominant
4				Species Across All Strata: 4 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
	50	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:15 ft)				OBL species 30 x 1 = 30
1. Cephalanthus occidentalis	30	Yes	OBL	FACW species 70 x 2 = 140
2. Frangula alnus	15	Yes	FAC	FAC species 65 x 3 = 195
3.				FACU species 0 x 4 = 0
4.				UPL species0 x 5 =0
5.				Column Totals: 165 (A) 365 (B)
6.				Prevalence Index = B/A = 2.21
7.				Hydrophytic Vegetation Indicators:
	45	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%
1. Phragmites australis	70	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
2.				4 - Morphological Adaptations ¹ (Provide supporting
3				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				¹ Indicators of hydric soil and wetland hydrology must
6.				be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in. (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10.				Sapling/shrub – Woody plants less than 3 in. DBH
11.				and greater than or equal to 3.28 ft (1 m) tall.
12.				Herb – All herbaceous (non-woody) plants, regardless
	70	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 15 ft)		•		Weeds vines All woods vines greater than 2.29 ft in
1.				Woody vines – All woody vines greater than 3.28 ft in height.
2.				
3.				Hydrophytic
4.				Vegetation Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa		n fringe of large		1

Profile Desc Depth	ription: (Describe t Matrix	to the de		ument th x Featur		ator or co	onfirm the absence of inc	licators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-4	10YR 5/3	100					Loamy/Clayey		
4-10	10YR 5/2	97	7.5YR 5/6	3	С	М	Sandy F	Prominent redox concentration	ns
10-20	10YR 6/2	100					Sandy		
¹ Type: C=Co	oncentration, D=Depl	etion, RI	M=Reduced Matrix, N	/IS=Mas	ked San	d Grains.	² Location: PL=P	ore Lining, M=Matrix.	
Hydric Soil I	ndicators:						Indicators for P	roblematic Hydric Soils ³ :	
Histosol			Dark Surface (A10) (LRR K, L, MLRA 149B	·)
	ipedon (A2)		Polyvalue Belo		ce (S8) (LRR R,			
Black His			MLRA 149B	,	. /I DD D	MIDA		Peat or Peat (S3) (LRR K, L,	
	n Sulfide (A4) Layers (A5)		Thin Dark Surfa					elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L)	
	l Below Dark Surface	(A11)	Loamy Mucky					iese Masses (F12) (LRR K, L	R)
	rk Surface (A12)	, (, , , , ,	Loamy Gleyed			ix ix, =/		podplain Soils (F19) (MLRA 1	
	oodic (A17)		Depleted Matri		,			Material (F21) (outside MLRA	
(MLR	A 144A, 145, 149B)		Redox Dark Su	ırface (F	- 6)		Very Shallov	v Dark Surface (F22)	
Sandy M	ucky Mineral (S1)		Depleted Dark	Surface	(F7)		Other (Expla	in in Remarks)	
	leyed Matrix (S4)		Redox Depress		8)		2		
X Sandy R			Marl (F10) (LR		04) (88)	- 4 4 - 1		f hydrophytic vegetation and	
Stripped	Matrix (S6)		Red Parent Ma	iteriai (F	21) (ML I	RA 145)		drology must be present, turbed or problematic.	
Restrictive I	_ayer (if observed):						uniess dis	urbed of problematic.	
Type:	-uyo. (oboo. rou).								
Depth (in	nches):						Hydric Soil Present?	Yes X No	
Remarks:						J			
Hydric soils a	are present. Hydric s	oils indic	ator Sandy Redox (S	35) and I	High Chr	oma San	ds (S11) are satisfied.		



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNATION	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/3/22					
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP18					
Investigator(s): Brauna Hartzell, Mead & Hun	nt, Inc.	Section, Tow	nship, Range: Section 3	B5, T6N, R16E					
Landform (hillside, terrace, etc.): Terrace at	bove basin Local re	elief (concave, convex	, none): Flat	Slope %: 1-2%					
Subregion (LRR or MLRA): LRR L, MLRA 99		•	-82.537917	 Datum: WGS84					
Soil Map Unit Name: Wainola-Deford fine sa				N/A					
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)					
, ,	,,		al Circumstances" prese						
Are Vegetation, Soil, or Hydrol			·						
Are Vegetation, Soil, or Hydrol			, explain any answers in	•					
SUMMARY OF FINDINGS – Attach	site map showing samp	oling point locat	ions, transects, im	portant features, etc.					
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea						
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No_X_					
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:						
Remarks: (Explain alternative procedures he An analysis of antecedent precipitation indica basin.									
HYDROLOGY									
Wetland Hydrology Indicators:	-		Secondary Indicators (m	ninimum of two required)					
Primary Indicators (minimum of one is require			Surface Soil Cracks	(B6)					
Surface Water (A1)	Water-Stained Leaves (BS	9)	Drainage Patterns (B10)					
High Water Table (A2)	Aquatic Fauna (B13)	,	Moss Trim Lines (B	•					
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water						
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (C	,					
Sediment Deposits (B2)	Oxidized Rhizospheres or	• , ,		n Aerial Imagery (C9)					
Drift Deposits (B3)	Presence of Reduced Iron	` '	Stunted or Stressed						
Algal Mat or Crust (B4)	Recent Iron Reduction in Thin Muck Surface (C7)	Tilled Solis (Co)	Geomorphic Positio Shallow Aquitard (D						
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7) Other (Explain in Remarks	·	Shallow Adultard (D Microtopographic R	, and the second					
Sparsely Vegetated Concave Surface (B	· ——	•	FAC-Neutral Test (I						
Field Observations:		.							
Surface Water Present? Yes	No X Depth (inches):								
	No X Depth (inches):								
Saturation Present? Yes	No X Depth (inches):		l Hydrology Present?	Yes No X					
(includes capillary fringe)									
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, prev	vious inspections), if a	available:						
Remarks: Wetland hydrology is neither present nor indi	cated.								

/EGETATION – Use scientific names of pla	ınts.			Sampling Point:	DP18
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Betula papyrifera	40	Yes	FACU	Number of Dominant Species	
2. Acer rubrum	20	Yes	FAC	That Are OBL, FACW, or FAC:	7 (A)
3. Populus tremuloides	20	Yes	FAC	Total Number of Dominant	
4				Species Across All Strata:	9 (B)
5				Percent of Dominant Species	
6				•	77.8% (A/B)
7				Prevalence Index worksheet:	
	80	=Total Cover		Total % Cover of: Mu	ultiply by:
Sapling/Shrub Stratum (Plot size:15 ft)				OBL species0 x 1 =	0
1. Frangula alnus	10	Yes	FAC	FACW species 5 x 2 =	10
2. Spiraea alba	5	Yes	FACW	FAC species 95 x 3 =	285
3. Acer rubrum	5	Yes	FAC	FACU species 80 x 4 =	320
4.				UPL species 0 x 5 =	0
5.				Column Totals: 180 (A)	615 (B)
6.				Prevalence Index = B/A =	3.42
7.				Hydrophytic Vegetation Indicators:	
	20	=Total Cover		1 - Rapid Test for Hydrophytic Ve	getation
Herb Stratum (Plot size: 5 ft)		•		X 2 - Dominance Test is >50%	
1. Pteridium aquilinum	40	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹	
2. Solidago rugosa 3.	30	Yes	FAC	4 - Morphological Adaptations ¹ (Production of the data in Remarks or on a separate	
4.				Problematic Hydrophytic Vegetation	on ¹ (Explain)
5 6				¹ Indicators of hydric soil and wetland he present, unless disturbed or proble	
7.				Definitions of Vegetation Strata:	
8				Tree – Woody plants 3 in. (7.6 cm) or	more in
9				diameter at breast height (DBH), regal	
10				Sapling/shrub – Woody plants less th	nan 3 in DBH
11				and greater than or equal to 3.28 ft (1	
12	70	=Total Cover		Herb – All herbaceous (non-woody) plof size, and woody plants less than 3.3	
Woody Vine Stratum (Plot size: 15 ft)		_ Total Govel			
1. Vitis riparia	10	Voc	FAC	Woody vines – All woody vines great height.	er than 3.28 ft in
2.	10	Yes	FAC	neignt.	
		- ——		Hydrophytic	
3.		- ——		Vegetation	
4		T-1-1 0		Present? Yes X No	
	10	=Total Cover			

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

Hydrophytic vegetation is present. About 20 ft separates this sampling point from its paired wetland sampling point (DP17) with 3 ft change in elevation

Profile Desc Depth	ription: (Describe t Matrix	o the de		ument th x Featur		itor or co	onfirm the absence of	of indicat	ors.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	ks
0-18	10YR 4/3	100					Loamy/Clayey			
0 10	10111470	100					Loamyrolaycy			
	<u> </u>									
	-									
	oncentration, D=Deple	etion, RN	/I=Reduced Matrix, N	MS=Mas	ked Sand	d Grains.			_ining, M=Ma	
Hydric Soil I			D 10 (/	07)					ematic Hydri	
Histosol	` '		Dark Surface ((CO) (-	MLRA 149B)
	ipedon (A2)		Polyvalue Belo		ce (58) (I	LKK K,			dox (A16) (LF	*
Black His	n Sulfide (A4)		Thin Dark Surf	,	(I PP P	MI DA 1		-	Surface (S8)	(LRR K, L, R)
	Layers (A5)		High Chroma S						e (S9) (LRR	
	Below Dark Surface	(A11)	Loamy Mucky							() (LRR K, L, R)
	rk Surface (A12)	(7(11)	Loamy Gleyed			(I(, L)		-	-	9) (MLRA 149B)
	oodic (A17)		Depleted Matri		. –,				-	tside MLRA 145)
	A 144A, 145, 149B)		Redox Dark Su		6)				rk Surface (F	
	ucky Mineral (S1)		Depleted Dark		-				Remarks)	•
Sandy G	leyed Matrix (S4)		Redox Depres	sions (F	8)		<u></u>			
Sandy R	edox (S5)		Marl (F10) (LR	RK, L)			³ Indicat	ors of hyd	Irophytic vege	etation and
Stripped	Matrix (S6)		Red Parent Ma	aterial (F	21) (MLF	RA 145)	wetla	nd hydrol	ogy must be	present,
							unles	s disturbe	ed or problem	atic.
Restrictive L	ayer (if observed):									
Type:										
Depth (ir	nches):						Hydric Soil Prese	nt?	Yes	No X
Remarks:										
Hydric soils a	are not present. Does	not mee	t hydric soils criteria	١.						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNAT	ΓΙΟΝ <mark>AL AIRPORT (PHN) C</mark>	City/County: St Clair		Sampling Date: 10/3/22					
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP19					
Investigator(s): Brauna Hartzell, Mead & Hunt	t, Inc.	Section, Tov	vnship, Range: Section	2, T5N, R16E					
Landform (hillside, terrace, etc.): Ditch/swale	e Local rel	lief (concave, conve	x, none): Concave	Slope %: <1%					
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.5384928	 Datum: WGS84					
Soil Map Unit Name: Wainola-Deford fine sar									
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)					
									
Are Vegetation, SoilX, or Hydrol			nal Circumstances" pres						
Are Vegetation, Soil, or Hydrol			, explain any answers ir						
SUMMARY OF FINDINGS – Attach	site map showing samp	ling point locat	ions, transects, in	nportant features, etc.					
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea						
•	Yes X No	within a Wetland?		No					
Wetland Hydrology Present?	Yes X No	If yes, optional Wet	tland Site ID: 7C						
An analysis of antecedent precipitation indica toeslope. Soils and hydrology altered due to c		ns were drier than no	ormal range. Data point	taken in ditch at edge near					
HYDROLOGY									
Wetland Hydrology Indicators:			Secondary Indicators (r	minimum of two required)					
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Crack	s (B6)					
X Surface Water (A1)	Water-Stained Leaves (B9	3)	Drainage Patterns						
X High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (E	·					
X Saturation (A3)	Marl Deposits (B15)		Dry-Season Water						
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (·					
Sediment Deposits (B2)	Oxidized Rhizospheres on	-		on Aerial Imagery (C9)					
Drift Deposits (B3)	Presence of Reduced Iron	` '	Stunted or Stresse						
Algal Mat or Crust (B4) Iron Deposits (B5)	Recent Iron Reduction in T Thin Muck Surface (C7)	Tillea Solis (Co)	X Geomorphic Position Shallow Aquitard (I						
Inundation Visible on Aerial Imagery (B7)		2)	Microtopographic F	•					
Sparsely Vegetated Concave Surface (B)		')	X FAC-Neutral Test (
Field Observations:	<u>-)</u>			20)					
Surface Water Present? Yes X	No Depth (inches):	4							
Water Table Present? Yes X	No Depth (inches):	3							
Saturation Present? Yes X	No Depth (inches):		d Hydrology Present?	Yes X No					
(includes capillary fringe)									
Describe Recorded Data (stream gauge, mon	nitoring well, aerial photos, previ	ious inspections), if	available:						
Remarks: Wetland hydrology is present and indicated. S	Standing water in ditch.								

/EGETATION – Use scientific names of p	iants.			Sampling Point: DP19			
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1				Number of Dominant Species			
2.				That Are OBL, FACW, or FAC:	6	_ (A)	
3.				Total Number of Dominant			
4				Species Across All Strata:	6	_(B)	
5				Percent of Dominant Species			
6.				That Are OBL, FACW, or FAC:	100.0%	(A/B)	
7				Prevalence Index worksheet:			
		=Total Cover		Total % Cover of:	Multiply by:		
Sapling/Shrub Stratum (Plot size: 15 ft))			OBL species 45	x 1 =45		
1. Alnus incana	30	Yes	FACW	FACW species	x 2 =150		
2. Frangula alnus	10	Yes	FAC	FAC species 40	x 3 = 120		
3.				FACU species 0	x 4 =0		
4			-	UPL species 0	x 5 = 0		
5.	<u> </u>			Column Totals: 160	(A) 315	(B)	
6.				Prevalence Index = B/A	= 1.97		
7.				Hydrophytic Vegetation Indica	ators:		
	40	=Total Cover		1 - Rapid Test for Hydrophy	tic Vegetation		
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%	6		
1. Cladium mariscoides	30	Yes	OBL	X 3 - Prevalence Index is ≤3.0) ¹		
2. Juncus dudleyi	20	Yes	FACW	4 - Morphological Adaptatio	ns¹ (Provide su	pporting	
3. Solidago rugosa	15	Yes	FAC	data in Remarks or on a separate sheet)			
4. Schoenoplectus tabernaemontani	10	No	OBL	Problematic Hydrophytic Ve	egetation ¹ (Expl	lain)	
5. Eupatorium perfoliatum	10	No	FACW				
6. Phragmites australis	10	No	FACW	¹ Indicators of hydric soil and we be present, unless disturbed or		must	
7. Gentiana clausa	5	No	FACW	Definitions of Vegetation Stra			
8. Sium suave	3	No	OBL	_			
9. Alisma subcordatum	2	No	OBL	Tree – Woody plants 3 in. (7.6 diameter at breast height (DBH)		height.	
10.	1				_		
11.	,			Sapling/shrub – Woody plants and greater than or equal to 3.2		DRH	
12.	,				, ,		
	105	=Total Cover		Herb – All herbaceous (non-wood of size, and woody plants less the		jardless	
Woody Vine Stratum (Plot size: 15 ft)						
Vitis riparia	, 15	Yes	FAC	Woody vines – All woody vines height.	greater than 3.	.28 ft in	
		163	TAC	neight.			
				Hydrophytic			
3.				Vegetation Present? Yes X	No		
4.	15	=Total Cover		Present? Yes X	No		
	15	= Fotal Cover					

(inches) Color (moist) % Color (moist) % Type' Loc' Texture Remarks 0-10 10YR 5/1 92 7.5YR 4/8 5 C M Sandy Prominent redox concentrations 10-18 10YR 5/1 100 Loamy/Clayey 10-18 10YR 5/1 100 Loamy/	Depth	Matrix			x Featu						
10-18 10-18	(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	3
10-18 10YR 5/1 100 Loamy/Clayey 1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1Type: C=Concentration, D=Depletion Reduced Matrix, MS=Masked Sand Grains. 1Type: C=Concentration, M=Matrix. 1Type: Candot Grain Matrix, MS=Masked Sand Grains. 1Type: Candot Grain Matrix (B1)	0-10	10YR 5/1	92	7.5YR 4/6	5	С	M	Sandy	Prom	ninent redox co	ncentrations
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L) Thick Dark Surface (A11) Thick Dark Surface (A12) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Mesic Spodic (A17) MEAN 1498 Mesic Spodic (A17) MEAN 1498 Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Redox Cepressions (F8) X Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Dark Surface (F7) Sandy Redox (S5) Marl (F10) (LRR K, L) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:				10YR 2/1	3	D	M				
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thick Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No Remarks:	10-18	10YR 5/1	100					Loamy/Clayey			
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thick Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No Remarks:											
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thick Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No Remarks:											
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thick Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No Remarks:											
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thick Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No Remarks:											
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thick Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No Remarks:											
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR R, L, R) Polyvalue Below Surface (S8) (LRR R, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:											
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR R, L, R) Polyvalue Below Surface (S8) (LRR R, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:											
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR R, L, R) Polyvalue Below Surface (S8) (LRR R, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:											
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thick Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No Remarks:										,	
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR R, L, R) Polyvalue Below Surface (S8) (LRR R, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:											
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR R, L, R) Polyvalue Below Surface (S8) (LRR R, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:	17			A. Dadward Matrix N	10. 14	-11-0		21 4:	D	Lining NA NASA	
Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR K, L, R) Hydrogen Sulfide (A4) Stratified Layers (A5) X High Chroma Sands (S11) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Stripped Matrix (S6) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Coast Prairie Redox (A16) (LRR K, L, R) Strm Mucky Peat or Peat (S3) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) Follows Peat or Peat (S3) (LRR K, L) For Mucky Peat or Peat (S3) (LRR K, L) For Mucky Peat or Peat (S3) (LRR K, L) For Mucky Peat or Peat (S3) (LRR K, L) For Mucky Peat or Peat (S3) (LRR K			etion, Ri	vi=Reduced Matrix, i	/IS=IVIAS	sked San	d Grains.				
Black Histic (A3) Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) A High Chroma Sands (S11) (LRR K, L) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stratified Layers (A5) MERA 149B) Thin Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Red Parent Material (F21) (outside MLRA 14 (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) X Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Redox Depresent, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:	-			Dark Surface (S7)						
Hydrogen Sulfide (A4)	Histic Ep	pipedon (A2)		Polyvalue Belo	w Surfa	ice (S8) (LRR R,	Coast P	rairie Re	dox (A16) (LRF	₹ K, L, R)
Stratified Layers (A5) X High Chroma Sands (S11) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (outside MLRA 145) X Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Remarks: Hydric Soil Present? Yes X No Remarks:	Black Hi	stic (A3)		MLRA 149B)			5 cm M	ucky Pea	ıt or Peat (S3) (LRR K, L, R)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Mesic Spodic (A17) Redox Dark Surface (F6) Sendy Mucky Mineral (S1) Sendy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wery Shallow Dark Surface (F22) Other (Explain in Remarks) SIndicators 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:	Hydroge	n Sulfide (A4)		Thin Dark Surf	ace (S9) (LRR R	, MLRA 1	49B) Polyvalı	ıe Below	Surface (S8) (I	LRR K, L)
Thick Dark Surface (A12) Mesic Spodic (A17) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) X Bepleted Dark Surface (F6) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (outside MLRA 145) Wery Shallow Dark Surface (F22) Other (Explain in Remarks) All 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 Red Parent Materials Hydric Soil Present?	Stratified	d Layers (A5)		X High Chroma S	Sands (S	S11) (LR	R K, L)	Thin Da	rk Surfac	e (S9) (LRR K ,	, L)
Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (outside MLRA 14 Very Shallow Dark Surface (F22) Other (Explain in Remarks) Redox Depressions (F8) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Red Parent Material (F21) (outside MLRA 144 Very Shallow Dark Surface (F22) Other (Explain in Remarks) **Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Hydric Soil Present?** Yes X No **Remarks:**	Depleted	d Below Dark Surface	(A11)	Loamy Mucky	Mineral	(F1) (LR	RK, L)	Iron-Ma	nganese	Masses (F12)	(LRR K, L, R)
(MLRA 144A, 145, 149B) Redox Dark Surface (F6) Very Shallow Dark Surface (F22) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) X Sandy Redox (S5) Marl (F10) (LRR K, L) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No	Thick Da	ark Surface (A12)		Loamy Gleyed	Matrix ((F2)					
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Depth (inches): Depleted Dark Surface (F7) Other (Explain in Remarks) Redox Depressions (F8) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No Remarks:	Mesic S	podic (A17)		X Depleted Matri	x (F3)			Red Pa	rent Mate	erial (F21) (outs	side MLRA 145)
Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:	(MLR	A 144A, 145, 149B)		Redox Dark Su	ırface (F	- 6)		Very Sh	allow Da	rk Surface (F22	2)
X Sandy Redox (S5)	Sandy M	lucky Mineral (S1)		Depleted Dark	Surface	e (F7)		Other (E	Explain in	Remarks)	
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:	Sandy G	Gleyed Matrix (S4)		Redox Depres	sions (F	8)		_			
Restrictive Layer (if observed): Type: Depth (inches): Remarks:	X Sandy R	ledox (S5)		Marl (F10) (LR	R K, L)			³ Indicate	ors of hyd	drophytic vegeta	ation and
Restrictive Layer (if observed): Type: Depth (inches): Remarks: Hydric Soil Present? Yes X No Remarks:	Stripped	Matrix (S6)		Red Parent Ma	aterial (F	-21) (ML I	RA 145)		•	•	
Depth (inches): Hydric Soil Present? Yes X No Remarks:	Restrictive	Layer (if observed):						unics	<u>J diotarbe</u>	sa or problema	
Remarks:	Type:										
	Depth (ii	nches):						Hydric Soil Prese	nt?	Yes X	No
Hydric soils are present. Hydric soils indicator Sandy Redox (S5), High Chroma Sands (S11) and Depleted Matrix (F3) are satisfied.											
	Hydric soils	are present. Hydric so	oils indic	cator Sandy Redox (35), Higl	h Chroma	a Sands (S11) and Depleted M	atrix (F3)	are satisfied.	



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/3/22
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP20
Investigator(s): Brauna Hartzell, Mead & Hur	nt, Inc.	Section, Tow	nship, Range: Section 2	 2, T5N, R16E
Landform (hillside, terrace, etc.): Ditch ban		elief (concave, convex		Slope %: 1%
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.538528	Datum: WGS84
Soil Map Unit Name: Wainola-Deford fine sa				N/A
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)
Are Vegetation X, Soil , or Hydro			al Circumstances" prese	
	<u> </u>		•	
Are Vegetation, Soil, or Hydro			, explain any answers in	•
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	ions, transects, ım	portant features, etc.
Hydrophytic Vegetation Present?	Yes No_X_	Is the Sampled Ar	ea	
Hydric Soil Present?	Yes X No	within a Wetland?		No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:	
Remarks: (Explain alternative procedures he				
An analysis of antecedent precipitation indication and brush cleared.	ates that environmental condition	ons were drier than no	ormal range. Data point t	aken on top of ditch bank;
Afea has been mown and brush deared.				
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is requir	ed; check all that apply)		Surface Soil Cracks	
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	·
Saturation (A3)	Marl Deposits (B15)	-	Dry-Season Water	
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres o		Saturation Visible o	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	-	Stunted or Stressed	• • • •
Algal Mat or Crust (B4)	Recent Iron Reduction in	` <i>'</i>	Geomorphic Positio	` ,
Iron Deposits (B5)	Thin Muck Surface (C7)	` ′	 Shallow Aquitard (D	` '
Inundation Visible on Aerial Imagery (B7		(s)	Microtopographic R	·
Sparsely Vegetated Concave Surface (E	· ——	,	FAC-Neutral Test ([
Field Observations:	,			,
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):		Hydrology Present?	Yes No X
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre	vious inspections), if a	available:	
Remarks:				
Wetland hydrology is neither present nor ind	icated.			

1. Prunus pensylvanica	'EGETATION – Use scientific names of pla	nts.			Sampling Point:	DP20
2. Populus grandidentata	Tree Stratum (Plot size: 30 ft)				Dominance Test worksheet:	
2.	1. Prunus pensylvanica	20	Yes	FACU	Number of Dominant Species	
1 1 1 1 1 1 1 1 1 1	2. Populus grandidentata	15	Yes	FACU		3 (A)
Species Across All Strata: 7 (E	3. Populus tremuloides	10	Yes	FAC	Total Number of Dominant	
	4					7 (B)
That Are OBL, FACW, or FAC: 42.9% (A Prevalence Index worksheet: Total % Cover of: Multiply by:	5.				Percent of Dominant Species	
A	6.				•	42.9% (A/B)
Sapling/Shrub Stratum (Plot size: 15 ft 1. Lonicera X bellia 15	7				Prevalence Index worksheet:	
1. Lonicera X bella 15 Yes FACU FACW species 10 x 2 = 20		45	=Total Cover		Total % Cover of:	Лultiply by:
2. Frangula alnus	Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 =	: 0
3. Rosa multiflora 5 No FACU 4. DPL species 105 x 4 = 420 UPL species 13 x 5 = 65 Column Totals: 148 (A) 565 Prevalence Index = B/A = 3.82 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supported data in Remarks or on a separate sheet) 4. Achillea millefolium 5 No FACU 4. Achillea millefolium 5 No FACU 5 - Festuca rubra 5 No FACU 6. Pteridium aquilinum 5 No FACU 7. Rubus occidentalis 5 No FACU 8. Fragaria virginiana 5 No FACU 10. Definitions of Vegetation Strata: 7. Rubus occidentalis 5 No FACU 10. Sapling/shrub − Woody plants less than 3 in. DB and greater than or equal to 3.28 ft (tal) tall. 10. Sapling/shrub − Woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) 1. Woody Vine Stratum (Plot size: 15 ft) 1. Hydrophytic Vegetation 1. ROU Sapling/shrub − All woody vines greater than 3.28 height. 1. Hydrophytic Vegetation 1. ROU Sapling/shrub − All woody vines greater than 3.28 height. 1. Hydrophytic Vegetation 1. ROU Sapling/shrub − All woody vines greater than 3.28 height. 1. Hydrophytic Vegetation	1. Lonicera X bella	15	Yes	FACU	FACW species 10 x 2 =	: 20
UPL species 13 x 5 = 65	2. Frangula alnus	10	Yes	FAC	FAC species 20 x 3 =	: 60
Column Totals: 148 (A) 5665 Prevalence Index = B/A = 3.82	3. Rosa multiflora	5	No	FACU	FACU species 105 x 4 =	420
Prevalence Index = B/A = 3.82	4.				UPL species 13 x 5 =	: 65
Herb Stratum (Plot size: 5 ft)	5.				Column Totals: 148 (A)	565 (B)
Herb Stratum (Plot size: 5 ft) 1 - Poa pratensis 30	6.				Prevalence Index = B/A =	3.82
Herb Stratum (Plot size: 5 ft) 1. Poa pratensis 30 Yes FACU 2. Phragmites australis 10 Yes FACW 3. Leucanthemum vulgare 5 No UPL 4. Achillea millefolium 5 No FACU 6. Pteridium aquilinum 5 No FACU 7. Rubus occidentalis 5 No UPL 8. Fragaria virginiana 5 No FACU 9. Daucus carota 3 No UPL 11.	7.				Hydrophytic Vegetation Indicators	 s:
1. Poa pratensis 2. Phragmites australis 3. Leucanthemum vulgare 3. Leucanthemum vulgare 5. No UPL 4. Achillea millefolium 5. Festuca rubra 6. Pteridium aquilinum 5. No FACU 7. Rubus occidentalis 8. Fragaria virginiana 9. Daucus carota 10. Yes FACW 5. No FACU 11. Tree – Woody plants 1 ses than 3 in. DBf and greater than or equal to 3.28 ft (1 m) tall. 11. Woody Vine Stratum 12. Woody Vine Stratum 13 Prevalence Index is \$3.0¹ 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Explain) 1		30	=Total Cover		1 - Rapid Test for Hydrophytic V	egetation/
1. Poa pratensis 2. Phragmites australis 3. Leucanthemum vulgare 3. Leucanthemum vulgare 4. Achillea millefolium 5 No FACU 5. Festuca rubra 5 No FACU 6. Pteridium aquilinum 5 No FACU 7. Rubus occidentalis 8. Fragaria virginiana 9. Daucus carota 10. 11. 12. 12. 13 Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppodata in Remarks or on a separate sheet) 5 No FACU 7 Problematic Hydrophytic Vegetation¹ (Explain) 1 Indicators of hydric soil and wetland hydrology mube 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 and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regard of size, and woody vines greater than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 height. Hydrophytic Vegetation	Herb Stratum (Plot size: 5 ft)		_		2 - Dominance Test is >50%	
2. Phragmites australis 3. Leucanthemum vulgare 4. Achillea millefolium 5. Festuca rubra 5. No FACU 6. Pteridium aquilinum 5. Rubus occidentalis 7. Rubus occidentalis 8. Fragaria virginiana 9. Daucus carota 10. 10. 11. 12. 10. 10. 10. 11. 12. 10. 11. 12. 13. 14. Morphological Adaptations 1 (Provide suppodata in Remarks or on a separate sheet) 15. No FACU 16. Problematic Hydrophytic Vegetation 1 (Explain) 17. Rubus occidentalis 18. Fragaria virginiana 19. Daucus carota 19. Daucus carota 10. 10. 11. 12. 13. 14. Morphological Adaptations 1 (Provide suppodata in Remarks or on a separate sheet) 14. Morphological Adaptations 1 (Provide suppodata in Remarks or on a separate sheet) 18. FACU 19. Problematic Hydrophytic Vegetation 1 (Explain) 19. Definitions of Vegetation Strata: 10. 11. 12. 13. 14. 15. 16. 17. 18. 18. 19. 19. 19. 19. 10. 10. 10. 11. 11	1. Poa pratensis	30	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹	
3. Leucanthemum vulgare 4. Achillea millefolium 5 No FACU 4. Achillea millefolium 5 No FACU 5 No FACU 6. Pteridium aquilinum 5 No FACU 7. Rubus occidentalis 8. Fragaria virginiana 9. Daucus carota 10. 11. 12. 12. 13. 14. Leucanthemum vulgare 5 No UPL 15 No FACU 16. Pteridium aquilinum 5 No UPL 17. Rubus occidentalis 8 Fragaria virginiana 9 Daucus carota 10. 11. 12. 13. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height and greater than or equal to 3.28 ft (1 m) tall. 16. Woody Vine Stratum 17. Problematic Hydrophytic Vegetation (Plot size: 15 ft of size, and woody plants less than 3.28 ft tall. 18. Woody Vines - All woody vines greater than 3.28 height. 19. Woody Vine Stratum 19. Hydrophytic 19. Vegetation 19. Hydrophytic 19. Vegetation		10	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting
5. Festuca rubra 5. No FACU 6. Pteridium aquilinum 5. No FACU 7. Rubus occidentalis 7. Rubus occidentalis 8. Fragaria virginiana 9. Daucus carota 10. 11. 12. 12. 13. =Total Cover Woody Vine Stratum (Plot size: 15 ft) 1. 14. 15. No FACU 5. No FACU 7. No FACU 9. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) 1. 2. 3. Hydrophytic Vegetation		5	No	UPL		
5. Festuca rubra 5. No FACU 6. Pteridium aquilinum 5. No FACU 7. Rubus occidentalis 7. Rubus occidentalis 8. Fragaria virginiana 9. Daucus carota 10. 11. 12. 12. 13. =Total Cover Woody Vine Stratum (Plot size: 15 ft) 1. 14. 15. No FACU 5. No FACU 7. No FACU 9. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) 1. 2. 3. Hydrophytic Vegetation	4. Achillea millefolium	5	No	FACU	Problematic Hydrophytic Vegeta	ation ¹ (Explain)
Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 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, regard of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 height. Hydrophytic Vegetation Vegetation		5	No	FACU		
7. Rubus occidentalis 8. Fragaria virginiana 9. Daucus carota 10. 11.	6. Pteridium aquilinum	5	No	FACU		
8. Fragaria virginiana 9. Daucus carota 10. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 11. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) 1. Woody vines – All woody vines greater than 3.28 height. Hydrophytic Vegetation	·	5	No	UPL		
9. Daucus carota 3	8. Fragaria virginiana	5	No		_	
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, regard of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) Woody vines – All woody vines greater than 3.28 height. Hydrophytic Vegetation		3	No	UPL		
11	10					
Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) Woody vines – All woody vines greater than 3.28 height. Hydrophytic Vegetation						
Woody Vine Stratum (Plot size: 15 ft) 1.						
Woody Vine Stratum (Plot size: 15 ft) 1.		73	=Total Cover			
1. height. 2. Hydrophytic Vegetation	Woody Vine Stratum (Plot size: 15 ft)		-			
2. Hydrophytic Vegetation					_	ater than 3.28 ft in
3. Hydrophytic Vegetation						
vegetation						
			· ——		_	o X
=Total Cover	··		=Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)	Damandra, (Include whate words are borners		•		L	

Area cleared from shrubs; bare ground present. Hydrophytic vegetation is not present. About 5 ft change in elevation

Depth	Matrix	to the de	-	ı ment tı x Featur		ator or co	onfirm the absence of	indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	s
0-6	10YR 4/2						Loamy/Clayey			
6-13	10YR 4/2	98	10YR 5/6	2	С	M	Loamy/Clayey	Prominent r	edox co	oncentrations
13-18	10YR 5/1	47	10YR 5/8	3	С	M	Sandy	Prominent r	edox co	oncentrations
	10YR 6/1	50								
¹ Type: C=C	oncentration, D=Depl	etion, RI	M=Reduced Matrix, M	1S=Mas	ked San	d Grains.		L=Pore Lining,		
Hydric Soil								or Problematic	-	
Histosol			Dark Surface (S		aa (CO) (LDDD		ck (A10) (LRR		•
Black Hi	oipedon (A2) stic (A3)		MLRA 149B)		CE (36) (LKK K,		airie Redox (A´ cky Peat or Pe		•
	n Sulfide (A4)		Thin Dark Surfa	,) (LRR R	, MLRA 1		e Below Surfac		
Stratified	l Layers (A5)		High Chroma S	ands (S	611) (LRI	R K, L)	Thin Darl	k Surface (S9)	(LRR K	., L)
	d Below Dark Surface	e (A11)	Loamy Mucky N			RK, L)		iganese Masse		
	ark Surface (A12)		Loamy Gleyed		(F2)					9) (MLRA 149B)
	podic (A17) A 144A, 145, 149B)		X Depleted Matrix Redox Dark Su		-6)			allow Dark Surf		side MLRA 145) 2)
	lucky Mineral (S1)		Depleted Dark	,	,			xplain in Rema	-	_,
	sleyed Matrix (S4)		Redox Depress		٠, ,			•	,	
Sandy R	ledox (S5)		Marl (F10) (LRI	R K, L)			³ Indicator	rs of hydrophyt	tic veget	ation and
Stripped	Matrix (S6)		Red Parent Ma	terial (F	21) (MLF	RA 145)		d hydrology mu		
Postriotivo	Layer (if observed):						unless	disturbed or pr	roblema	tic.
Type:	Layer (II observed).									
Depth (ii	nches):						Hydric Soil Presen	ıt? Yes	s X	No
Remarks:										
	are present. Hydric s	oils indic	ator Depleted Matrix	(F3) is	satisfied	. Soils ap	pear mixed.			



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Are climatic / hydrologic conditions on the site typical for this time of year? Are Vegetation X , 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 If yes, optional Wetland Site ID: 7B Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Area mowed; Data point at edge in mowed area. Vegetation IDs for herb stratum mostly by reference to unmown areas.	Project/Site: ST CLAIR COUNTY INTERNATIONAL AIRPO	ORT (PHN) City/County	/: St Clair	Sampling Date: 10/4/22				
Landform (hillside, terrace, etc.): Depression	Applicant/Owner: St. Clair County		State: MI	Sampling Point: DP21				
Landform (hillside, terrace, etc.): Depression								
Subregion (I.RR or MI.RA):	Landform (hillside, terrace, etc.): Depression							
Soil Map Unit Name: Wainola-Deford fine sands. 0 to 2 percent slopes (WdA) (Partially Hydric) NWi classification. N/A Are climatic / hydrologic conditions on the site typical for this time of year? Yes No_X (if no, explain in Remarks.) Are Vegetation X , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No_ Are Vegetation , soil , or Hydrology influences on the stream of the control	· · · · · · · · · · · · · · · · · · ·		·	<u></u>				
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.) Are Vegetation X, Soil , or Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes X No Are Vegetation , Soil , or Hydrology , anturally 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								
Are Vegetation X								
Are Vegetation, Soil, or Hydrology		•						
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes X No Weltand Present? Yes X No If yes, optional Weltand? Yes X No Weltand Hydrology Present? Yes X No If yes, optional Weltand Site ID: 7B Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation inidicates that environmental conditions were drier than normal range. Area mowed; Data point at edge in mowed area. Vegetation IDs for herb stratum mostly by reference to unmown areas. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) Surface Water (A1) Water-Stained Leaves (B9) Filed Mater Table (A2) Aquatic Fauna (B13) Water Marks (B1) Agait Mari Deposits (B15) Dys-Season Water Table (C2) Drift Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Sparsely Vegetated Concave Surface (B8) Field Observations: Ves No X Depth (inches): Water Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches):		-						
Hydrophytic Vegetation Present? Yes X No Wetland Hydrology Present? Wetland Hydrology Indicators procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Area mowed; Data point at edge in mowed area. Vegetation IDs for herb stratum mostly by reference to unmown areas. ### Wetland Hydrology Indicators:								
Hydric Soil Present? Wetland Hydrology Present? Wetland Hydrology Present? Wetland Hydrology Present? Wetland Hydrology Indicators: Wetland Hydrology Indicators: Secondary Indicators (minimum of one is required; check all that apply) Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water Table (A2) Aquatic Fauna (B15) Saturation (A3) Mart Deposits (B15) Diff Deposits (B3) Diff Deposits (B3) Diff Deposits (B3) Agal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Fried Observations: Surface (C7) Shallow Aquitard (D3) Intoidation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Wetland Hydrology Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Wetland Hydrology Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Remarks:	SUMMARY OF FINDINGS – Attach site map sh	lowing sampling pol	nt locations, transects, ım	portant features, etc.				
Wetland Hydrology Present? Yes X No If yes, optional Wetland Site ID: 7B Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Area mowed; Data point at edge in mowed area. Vegetation IDs for herb stratum mostly by reference to unmown areas. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Valer (A1) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B3) Presence of Reduced Iron (C4) Sturtated Valer (A1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Individual Falier (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Wetland Hydrology Present? Yes No X Depth (inches):	Hydrophytic Vegetation Present? Yes X No	o Is the Sa	mpled Area					
Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Area mowed; Data point at edge in mowed area. Vegetation IDs for herb stratum mostly by reference to unmown areas. HyDROLOGY	Hydric Soil Present? Yes X No	o within a	Wetland? Yes X	No				
An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Area mowed; Data point at edge in mowed area. Vegetation IDs for herb stratum mostly by reference to unmown areas. HyDROLOGY	Wetland Hydrology Present? Yes X No	o If yes, op	tional Wetland Site ID: 7B					
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) X Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Wetland H	An analysis of antecedent precipitation indicates that enviror	nmental conditions were dr	ier than normal range. Area mowed	d; Data point at edge in				
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Visible on Aerial Imagery (Moss C3) Surface Water Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X No X Depth (inches): Remarks:	HYDROLOGY							
Surface Water (A1)	Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)							
High Water Table (A2) Saturation (A3) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table (A2) No X Depth (inches): Water Table (A2) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Sparsely Agendary (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) Field Observations: Surface Water Present? Ves No X Depth (inches): Water Table Present? Ves No X Depth (inches): Wetland Hydrology Present? Ves X No Cincludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Saturation (A3)	<u> </u>							
Water Marks (B1)								
Sediment Deposits (B2) Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Saturation Present? Yes No X No Saturation Present Position (D3) Saturation Present Position (D3) Saturation Present Position (D3								
Drift Deposits (B3)								
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) X Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X No X Depth (inches): Saturation Present? Yes No X		·						
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Remarks:								
	2000100 1 10001 404 2414 (01102 32230;	, , , , , , , , , , , , , , , , , , ,	ottorio,, ii available.					

	VEGETATION -	Use scientific name	es of plants.
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/EGETATION – Use scientific names of pla	nts.			Sampling Point:	DP21
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Acer rubrum	30	Yes	FAC	Number of Dominant Species	
2. Betula papyrifera	10	Yes	FACU	That Are OBL, FACW, or FAC:	4 (A)
3				Total Number of Dominant	
4				Species Across All Strata:	5 (B)
5				Percent of Dominant Species	
6				That Are OBL, FACW, or FAC:	80.0% (A/B)
7				Prevalence Index worksheet:	
	40	=Total Cover		Total % Cover of: Mu	ıltiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 60 x 1 =	60
Cephalanthus occidentalis	40	Yes	OBL	FACW species 80 x 2 =	160
2.				FAC species 30 x 3 =	90
3.				FACU species 10 x 4 =	40
4.				UPL species 0 x 5 =	0
5.			_	Column Totals: 180 (A)	350 (B)
6.				Prevalence Index = B/A =	1.94
7.				Hydrophytic Vegetation Indicators:	
	40	=Total Cover		1 - Rapid Test for Hydrophytic Ve	
Herb Stratum (Plot size: 5 ft)	-	ı		X 2 - Dominance Test is >50%	_
1. Phragmites australis	40	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹	
Phalaris arundinacea	40	Yes	FACW	4 - Morphological Adaptations ¹ (Pr	rovide supporting
3. Typha angustifolia	15	No	OBL	data in Remarks or on a separa	
4. Iris virginica	5	No	OBL	Problematic Hydrophytic Vegetation	on¹ (Explain)
5.				¹ Indicators of hydric soil and wetland he present, unless disturbed or proble	
7.				Definitions of Vegetation Strata:	
8.				Tree – Woody plants 3 in. (7.6 cm) or	more in
9.				diameter at breast height (DBH), regar	
10.				Sapling/shrub – Woody plants less th	nan 3 in DBH
11.				and greater than or equal to 3.28 ft (1	
12.	100	=Total Cover		Herb – All herbaceous (non-woody) pl of size, and woody plants less than 3.2	
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woody vines great height.	
0				neight.	
3.			-	Hydrophytic	
4.				Vegetation Present? Yes X No	
		=Total Cover			
Remarks: (Include photo numbers here or on a senar	rata about)	•			

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation is present. Purple loosetrife and tag alder also present in wetland. Vegetation IDs in herb stratum made by reference to unmown areas; shrub and tree layers present within sampling plot.

Ginches) Color (moist) Gold (moist) Color (moist) Gold	Depth	cription: (Describe to Matrix		Redo	x Featur	res			,	
### 10YR 4/2	(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rem	arks
12-18	0-8	10YR 2/1	98	5YR 4/4	2	С	M	Loamy/Clayey	Prominent redox	concentrations
10YR 2/1 5 D M	8-12	10YR 4/2	95	10YR 2/1	5	D	M	Sandy		
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A1) Thic Dark Surface (A1) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Mesic Spodic (A17) Depleted Matrix (F3) Mesic Spodic (A17) Depleted Matrix (F3) Mesic Spodic (A17) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S4) Redox Depressions (F8) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) Thick Dark Surface (P72) Other (Explain in Remarks) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:	12-18	10YR 4/3	93	10YR 5/6	2	С	M	Sandy	Distinct redox	concentrations
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A11) Depleted Below Dark Surface (A11) Mesic Spodic (A17) Mesic Spodic (A17) Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Remarks: Indicators for Problematic Hydric Soils 3: 1 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Polyvalue Below Carl (A16) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR				10YR 2/1	5	D	М			
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Histic Epipedon (A2) Black Histic (A3) MLRA 149B) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Msec Spodic (A17) Msec Spodic (A17) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Marl (F10) (LRR K, L) Stripped (Matrix (S6) Marl (F10) (LRR K, L) Memarks: Polyvalue Below Surface (A16) (LRR K, L) Thin Dark Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (A17) Depleted Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Red Parent Material (F21) (outside MLRA 145 Very Shallow Dark Surface (F22) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:	•								-	
Black Histic (A3)					. ,					
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Stratified Layers (A5)		, ,			,	\	MI DA 1		-	
Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (outside MLRA 145) Wetry Shallow Dark Surface (F22) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:										
Thick Dark Surface (A12) Mesic Spodic (A17) Depleted Matrix (F3) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Redox Depressions (F8) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (outside MLRA 145) Wery Shallow Dark Surface (F22) Other (Explain in Remarks) All (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:			(Δ11)							
Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Redox Depleted Dark Surface (F7) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (outside MLRA 145) Wery Shallow Dark Surface (F22) Other (Explain in Remarks) Redox Depressions (F8) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:			(A11)				K K, L)		=	
(MLRA 144A, 145, 149B) X Redox Dark Surface (F6) Very Shallow Dark Surface (F22) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No		` ,				(1 -)				
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Depth (inches): Remarks: Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes X No						- 6)				
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:	•									,
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:									,	
Restrictive Layer (if observed): Type: Depth (inches): Remarks:	Sandy R	Redox (S5)		Marl (F10) (LR	R K, L)			³ Indicato	ors of hydrophytic ve	getation and
Restrictive Layer (if observed): Type:	Stripped	Matrix (S6)		Red Parent Material (F21) (MLRA 145)				wetlar	nd hydrology must b	e present,
Type:	Do atalastica I							unless	s disturbed or proble	ematic.
Depth (inches): Hydric Soil Present? Yes X No Remarks:		Layer (If observed):								
Remarks:	•	nches):						Hydric Soil Prese	nt? Yes	(No
		are present. Hydric so	oils indic	cator Redox Dark Su	rface (F6	6) is satis	fied. Som	ne organics present in	top layer.	



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNT	TY INTERNATIONAL AIRPORT (PHN)	City/County: St Clair	Sampling Date: 10/4/22
Applicant/Owner: St. Clair C	County	State: M	Sampling Point: DP22
Investigator(s): Brauna Hartzell,	, Mead & Hunt, Inc.	Section, Township, Range: Section	on 3, T5N, R16E
Landform (hillside, terrace, etc.):	Midslope Local r	relief (concave, convex, none): Convex	Slope %: 3-5%
Subregion (LRR or MLRA): LR		Long: -82.540001	 Datum: WGS84
	Deford fine sands, 0 to 2 percent slopes (W		
· -	ns on the site typical for this time of year?		o, explain in Remarks.)
	, or Hydrologysignificantly disturb		esent? Yes X No
Are Vegetation, Soil	, or Hydrologynaturally problema	atic? (If needed, explain any answers	s in Remarks.)
SUMMARY OF FINDINGS	S – Attach site map showing sam	pling point locations, transects,	important features, etc.
Hydrophytic Vegetation Present	t? Yes X No	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:	
An analysis of antecedent preci reference to unmown areas.	pitation indicates that environmental conditi	ions were drier than normal range. Area mo	wed. Vegetation IDs mostly by
HYDROLOGY			
Wetland Hydrology Indicators	s:	Secondary Indicators	s (minimum of two required)
•	one is required; check all that apply)	Surface Soil Cra	` ,
Surface Water (A1)	Water-Stained Leaves (E		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines	
Saturation (A3)	Marl Deposits (B15)	Dry-Season Wat	
Water Marks (B1)	Hydrogen Sulfide Odor (` '
Sediment Deposits (B2)	Oxidized Rhizospheres of	· · · · · · · · · · · · · · · · · · ·	e on Aerial Imagery (C9)
Drift Deposits (B3) Algal Mat or Crust (B4)	Presence of Reduced Iro Recent Iron Reduction in	• '	, ,
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitare	
Inundation Visible on Aerial			
Sparsely Vegetated Concav		X FAC-Neutral Tes	
Field Observations:			
	es No X Depth (inches):		
Water Table Present? Y	es No X Depth (inches):		
Saturation Present? Y	es No X Depth (inches):	Wetland Hydrology Present	? Yes No X
(includes capillary fringe)			
Describe Recorded Data (stream	m gauge, monitoring well, aerial photos, pre	evious inspections), if available:	
Remarks: Wetland hydrology is neither pro	esent nor indicated.		

VEGETATION – Use scientific names of plants.	Sampling Point:	DP22
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Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test wo	orksheet:		
1 2				Number of Dominant That Are OBL, FACV	•	3	(A)
3.4.				Total Number of Dor Species Across All S		4	_(B)
5.6.		- <u> </u>		Percent of Dominant That Are OBL, FACV		75.0%	(A/B)
7				Prevalence Index w	orksheet:		
		=Total Cover		Total % Cover	of:	Multiply by:	
Sapling/Shrub Stratum (Plot size:15 ft)				OBL species	20 x 1	= 20	
1				FACW species	30 x 2	= 60	
2				FAC species	20 x 3	= 60	
3.				FACU species	30 x 4	= 120	
4.				UPL species	0 x 5	= 0	
5.				Column Totals:	100 (A)	260	— (B)
6.				Prevalence In	ndex = B/A =	2.60	
7.				Hydrophytic Vegeta	ation Indicato	rs:	
		=Total Cover		1 - Rapid Test fo			
Herb Stratum (Plot size: 5 ft)		-		X 2 - Dominance T		· ·	
1. Rubus hispidus	30	Yes	FACW	3 - Prevalence Ir			
2. Carex flava	20	Yes	OBL	4 - Morphologica		Provide sup	porting
3. Cornus racemosa	15	Yes	FAC		rks or on a sep		
4. Fragaria virginiana	15	Yes	FACU	Problematic Hyd	drophytic Veae	tation ¹ (Expla	ain)
5. Pteridium aquilinum	10	No	FACU	1 .			
6. Achillea millefolium	5	No	FACU	¹ Indicators of hydric be present, unless di			must
7. Eurybia macrophylla	5	No	FAC	Definitions of Vege	•		
8.		· ———					
9.				Tree – Woody plants diameter at breast he			neiaht.
10.		· ———					_
11.				Sapling/shrub – Wo	• •)BH
12.					•	, ,	
	100	=Total Cover		Herb – All herbaceon of size, and woody p	` ,	,	ardless
<u>Woody Vine Stratum</u> (Plot size:15 ft) 1				Woody vines – All w height.	voody vines gr	eater than 3.2	28 ft in
2.							
3.				Hydrophytic Vegetation			
4.	-			•	es X I	No	
		=Total Cover			_		
Pamarka: (Include phote numbers here or on a cone	roto oboot \			3			

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

Hydrophytic vegetation is present. All vegetation mowed to about 6 inches. Potentilla sp. also present. Vegetation IDs mostly by reference to unmown areas. About 30 ft separates this sampling point from its paired wetland sampling point (DP21) with 1 -2 ft change in elevation

Depth	cription: (Describe t Matrix	o tne ae	•	ı ment tı k Featur		ator or co	onfirm the absence of indic	ators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	ırks
0-5	10YR 3/2	100					Loamy/Clayey		
5-13	10YR 4/1	100					Loamy/Clayey		
13-20	10YR 6/6	98	10YR 4/2	2	D	М	Sandy		
10 20			101111112						
-		etion, RN	M=Reduced Matrix, M	IS=Mas	ked San	d Grains.	² Location: PL=Por		
Hydric Soil Histosol			Dark Surface (S	27)			Indicators for Pro 2 cm Muck (A	=	
	oipedon (A2)		Polyvalue Belov		ce (S8) (LRR R.	Coast Prairie F		
Black Hi			MLRA 149B)		(, (,,			B) (LRR K, L, R)
Hydroge	en Sulfide (A4)		Thin Dark Surfa	ace (S9)) (LRR R	, MLRA 1	149B) Polyvalue Belo	ow Surface (S8) (LRR K, L)
	d Layers (A5)		High Chroma S				Thin Dark Surf		
	d Below Dark Surface	: (A11)	Loamy Mucky N			RK, L)			2) (LRR K, L, R)
	ark Surface (A12)		Loamy Gleyed		(F2)				19) (MLRA 149B)
	podic (A17) A 144A, 145, 149B)		Depleted Matrix Redox Dark Su		-6)		Very Shallow I		utside MLRA 145)
	Mucky Mineral (S1)		Depleted Dark	•	•		Other (Explain		22)
	Gleyed Matrix (S4)		Redox Depress				Out of (Explain	iii rtomanto,	
	Redox (S5)		Marl (F10) (LRF		-,		³ Indicators of h	ydrophytic veç	getation and
	Matrix (S6)		Red Parent Ma		21) (MLI	RA 145)		rology must be	
							unless distu	rbed or probler	natic.
	Layer (if observed):								
Type:	achoo):						Hydria Sail Brasant?	Voc	No. V
	nches):						Hydric Soil Present?	Yes	NoX
Remarks: Hydric soils	are not present. Does	s not me	et hydric soils criteria.	-					
•	•		•						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/5/22
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP23
Investigator(s): Brauna Hartzell, Mead & Hun	nt, Inc.	Section, Tov	vnship, Range: Section 3	, T5N, R16E
Landform (hillside, terrace, etc.): Depressio	on Local r	relief (concave, conve		Slope %: <1%
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.543959	 Datum: WGS84
Soil Map Unit Name: Allendale-Latty comple			NWI classification:	N/A
Are climatic / hydrologic conditions on the site		Yes	No X (If no, e	explain in Remarks.)
Are Vegetation X, Soil , or Hydro	,,		nal Circumstances" prese	
Are Vegetation , Soil , or Hydro			, explain any answers in	
SUMMARY OF FINDINGS – Attach				
SUMMENT OF THE PROPERTY OF	Sile map snowing samp	ping point locat	10115, transects, nn	portant reatures, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar		
Hydric Soil Present?	Yes X No	within a Wetland?		No
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 18J	
Remarks: (Explain alternative procedures he An analysis of antecedent precipitation indica regrowth present, making vegetation ID relial	ates that environmental condition	ons were drier than n	ormal range. Area mowe	d periodically; about 6-8in
LHYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks	
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (` '
High Water Table (A2)	Aquatic Fauna (B13)	•	Moss Trim Lines (B	
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	
Water Marks (B1)	Hydrogen Sulfide Odor (0	C1)	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres o	on Living Roots (C3)	Saturation Visible or	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro	on (C4)	Stunted or Stressed	Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Positio	n (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark	ks)	Microtopographic Re	elief (D4)
Sparsely Vegetated Concave Surface (B	38)		X FAC-Neutral Test (D	05)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes X No
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, pre	vious inspections), if	available:	
Remarks: Wetland hydrology is indicated.				

/EGETATION - Use scientific names of pl	lants.	Sampling Point:	DP23

<u>Tree Stratum</u> (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC: (A))
3. 4.				Total Number of Dominant Species Across All Strata: 4 (B))
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/	В)
7				Prevalence Index worksheet:	
		=Total Cover		Total % Cover of: Multiply by:	
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 20 x 1 = 20	
1				FACW species 50 x 2 = 100	
2.				FAC species 20 x 3 = 60	
3.		· -		FACU species 0 x 4 = 0	
4.				UPL species 0 x 5 = 0	
5.				Column Totals: 90 (A) 180 ((B)
6.				Prevalence Index = B/A = 2.00	
7.				Hydrophytic Vegetation Indicators:	
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation	
Herb Stratum (Plot size: 5 ft)		!		X 2 - Dominance Test is >50%	
1. Athyrium angustum	20	Yes	FAC	X 3 - Prevalence Index is ≤3.0 ¹	
Phalaris arundinacea	20	Yes	FACW	4 - Morphological Adaptations ¹ (Provide support	ting
3. Dichanthelium clandestinum	15	Yes	FACW	data in Remarks or on a separate sheet)	Ū
4. Phragmites australis	15	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
5. Juncus effusus	10	No	OBL		
6. Scirpus atrovirens	10	No	OBL	¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.	it
7				Definitions of Vegetation Strata:	
<u> </u>					
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height	ht.
10.				Continue to book a Wand and a large through the second in DDU	
11.	-			Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
12.	-				
	90	=Total Cover		Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall.	ess
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woody vines greater than 3.28 ft	t in
2.	1			height.	
	-			Hydrophytic	
3.				Vegetation Present? Yes X No	
4.		=Total Cover		Present? Yes X No	
Remarks: (Include photo numbers here or on a sepa	rate sheet \	75.5. 55751			
(morado prioto namboro noro or on a sepa	5, 1001.)				

Hydrophytic vegetation is present. Matted vegetation from mowing has inhibited regrowth in some areas along the boundary.

Depth	Matrix	tne ae		ıment tı x Featur		alor or co	onfirm the absence of	i iliuicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	10YR 3/1	98	7.5YR 4/4	2	С	М	Loamy/Clayey	Prominent redox concentrations
6-12	10YR 3/1	90	7.5YR 4/6	10	С	M	Loamy/Clayey	Prominent redox concentrations
12-14	10YR 2/1	95	7.5YR 4/4	5	С	M	Sandy	Prominent redox concentrations
14-20	10YR 4/1	100					Sandy	
¹Type: C=Co	oncentration, D=Deple	etion. RM	 I=Reduced Matrix. N	MS=Mas	ked San	d Grains.	² Location: P	L=Pore Lining, M=Matrix.
Hydric Soil I	•		,					or Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface (S	S7)				uck (A10) (LRR K, L, MLRA 149B)
Histic Ep	ipedon (A2)		Polyvalue Belov	w Surfa	ce (S8) (LRR R,	Coast Pr	rairie Redox (A16) (LRR K, L, R)
Black His	stic (A3)		MLRA 149B))			5 cm Mu	ucky Peat or Peat (S3) (LRR K, L, R
Hydrogei	n Sulfide (A4)		Thin Dark Surfa	ace (S9)) (LRR R	, MLRA 1	Polyvalu Polyvalu	ie Below Surface (S8) (LRR K, L)
Stratified	Layers (A5)		High Chroma S	Sands (S	311) (LRI	R K, L)	Thin Dar	rk Surface (S9) (LRR K, L)
Depleted	Below Dark Surface	(A11)	Loamy Mucky N	Mineral	(F1) (LR !	RK, L)	Iron-Mar	nganese Masses (F12) (LRR K, L, R
	rk Surface (A12)		Loamy Gleyed		(F2)			nt Floodplain Soils (F19) (MLRA 149
	oodic (A17)		Depleted Matrix	` '				ent Material (F21) (outside MLRA 1
	A 144A, 145, 149B)		X Redox Dark Su	`	,			allow Dark Surface (F22)
	ucky Mineral (S1)		Depleted Dark				Other (E	explain in Remarks)
	leyed Matrix (S4)		Redox Depress		8)		3, ,,	
	edox (S5)		Marl (F10) (LRI		-04\ /841.1	- 4 4 - 1		ors of hydrophytic vegetation and
Stripped	Matrix (S6)		Red Parent Ma	iteriai (F	·21) (MLI	KA 145)		nd hydrology must be present, s disturbed or problematic.
	_ayer (if observed):							·
Type:								
	nches):						Hydric Soil Preser	nt? Yes X No
Remarks: Hydric soils a	are present. Hydric so	oils indic	ator Redox Dark Sur	faces (F	=6) is sat	isfied		
Trydrio ddiid d	are present. Tryano se	Jiio iriaiot	ALOI TROUGH BUIR OUI	10000 (1	0) 10 000	ionea.		



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/5/22
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP24
Investigator(s): Brauna Hartzell, Mead & Hur	nt, Inc.	Section, Tow	nship, Range: Section 3	s, T5N, R16E
Landform (hillside, terrace, etc.): Shoulder	Local re	elief (concave, convex	·	Slope %: 3%
Subregion (LRR or MLRA): LRR L, MLRA 9		·	-82.543974	Datum: WGS84
Soil Map Unit Name: Wainola-Deford fine sa				N/A
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)
Are Vegetation X, Soil , or Hydro			al Circumstances" prese	
Are Vegetation, Soil, or Hydro			, explain any answers in	•
SUMMARY OF FINDINGS – Attach	site map showing samp	pling point locati	ons, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Are	<u></u>	
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wetl	and Site ID:	
Remarks: (Explain alternative procedures he An analysis of antecedent precipitation indicataken near fence line that has some woody v	ates that environmental condition	ວns were drier than no	rmal range. Area mowed	d periodically; Data point
LHYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks	
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (I	` '
High Water Table (A2)	Aquatic Fauna (B13)	-	Moss Trim Lines (B	·
Saturation (A3)	Marl Deposits (B15)	-	Dry-Season Water 1	
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres of	-		n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stressed	• • • •
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position	n (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	-	Shallow Aquitard (D	
Inundation Visible on Aerial Imagery (B7	Other (Explain in Remark	(s)	Microtopographic Re	elief (D4)
Sparsely Vegetated Concave Surface (B	\$ 8)	-	FAC-Neutral Test (D)5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetland	Hydrology Present?	Yes No _X
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, prev	vious inspections), it a	ıvailable:	
Remarks: Wetland hydrology is neither present nor indi	icated.			

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of pla	nts.			Sampling Point	:: DP24
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Pinus strobus	25	Yes	FACU	Number of Dominant Species	
2. Sassafras albidum	20	Yes	FACU	That Are OBL, FACW, or FAC:	1 (A)
3. Prunus serotina	10	No	FACU	Total Number of Dominant	
4. Betula papyrifera	10	No	FACU	Species Across All Strata:	5 (B)
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC:	20.0% (A/B)
7.				Prevalence Index worksheet:	(742)
	65	=Total Cover			Multiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species0 x 1 =	= 0
1. Frangula alnus	15	Yes	FAC	FACW species 7 x 2 =	= 14
2.				FAC species 15 x 3 =	= 45
3.				FACU species 158 x 4 =	= 632
4.				UPL species 0 x 5 =	= 0
5.				Column Totals: 180 (A)	691 (B)
6.				Prevalence Index = B/A =	3.84
7.				Hydrophytic Vegetation Indicator	<u> </u>
	15	=Total Cover		1 - Rapid Test for Hydrophytic \	√egetation
Herb Stratum (Plot size: 5 ft)		•		2 - Dominance Test is >50%	
1. Poa pratensis	50	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹	
2. Gaultheria procumbens	30	Yes	FACU	4 - Morphological Adaptations ¹	
3. Dichanthelium clandestinum	5	No	FACW	data in Remarks or on a sep	arate sheet)
4. Fragaria virginiana	5	No	FACU	Problematic Hydrophytic Veget	ation ¹ (Explain)
5. Potentilla simplex	5	No	FACU	¹ Indicators of hydric soil and wetland	d hydrology must
6. Achillea millefolium	3	No	FACU	be present, unless disturbed or prob	
7. Rubus hispidus	2	No	FACW	Definitions of Vegetation Strata:	
8				Tree – Woody plants 3 in. (7.6 cm)	or more in
9				diameter at breast height (DBH), re	gardless of height.
10				Sapling/shrub – Woody plants less	s than 3 in. DBH
11				and greater than or equal to 3.28 ft	
12	100	=Total Cover		Herb – All herbaceous (non-woody) of size, and woody plants less than	
Woody Vine Stratum (Plot size: 15 ft) 1.		· 		Woody vines – All woody vines green height.	eater than 3.28 ft in
2.					
3.				Hydrophytic Vegetation	
4.					lo_X_
		=Total Cover			
Pomarka: (Include photo numbers here or on a cons	ata abaat \			1	

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

Hydrophytic vegetation is not present. About 15 ft separates this sampling point from its paired wetland sampling point (DP23) with 6in change in elevation.

Profile Desc Depth	ription: (Describe t Matrix	to the de		ument th ox Featur		ator or co	onfirm the absence of ind	cators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	ırks
0-6	10YR 4/3	100					Loamy/Clayey		
6-10	10YR 6/1	100					Sandy		
10-18	7.5YR 4/6	100					Sandy		_
							<u> </u>		
									
									
	oncentration, D=Depl	etion, RN	M=Reduced Matrix, N	์ √IS=Mas	ked San	d Grains.	² Location: PL=Po		
Hydric Soil I Histosol			Dark Surface ((S7)				.10) (LRR K, L,	
	ipedon (A2)		Polyvalue Belo	` '	ce (S8) (LRR R,		Redox (A16) (L	=
Black His	stic (A3)		MLRA 149B	i)			5 cm Mucky F	eat or Peat (S3	B) (LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surf		-			ow Surface (S8	
	Layers (A5)	(4.4.4)	High Chroma S					face (S9) (LRR	*
	Below Dark Surface	e (A11)	Loamy Mucky			R K, L)		-	2) (LRR K, L, R)
	rk Surface (A12) oodic (A17)		Loamy Gleyed Depleted Matri		ΓZ)			-	19) (MLRA 149B) utside MLRA 145)
	A 144A, 145, 149B)		Redox Dark St		6)			Dark Surface (F	
	ucky Mineral (S1)		Depleted Dark	-	-			n in Remarks) `	,
Sandy G	leyed Matrix (S4)		Redox Depres	sions (F	8)		<u>—</u>		
Sandy R	edox (S5)		Marl (F10) (LR	RK, L)			³ Indicators of	hydrophytic veg	getation and
Stripped	Matrix (S6)		Red Parent Ma	aterial (F	21) (MLF	RA 145)		drology must be	
Postrictive I	_ayer (if observed):						unless dist	ırbed or problen	natic.
Type:	Layer (II observed).								
Depth (ir	nches):						Hydric Soil Present?	Yes	No X
Remarks:									
Hydric soils a	are not present. Does	not mee	et hydric soils criteria	1.					



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/5/22			
Applicant/Owner: St. Clair County		·	State: MI	Sampling Point: DP25			
Investigator(s): Brauna Hartzell, Mead & Hun	nt, Inc.	Section, Tov	vnship, Range: Section 3	s, T5N, R16E			
Landform (hillside, terrace, etc.): Depressio	on Local r	relief (concave, conve		Slope %: 1%			
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.544035	Datum: WGS84			
Soil Map Unit Name: Allendale-Latty comple.			NWI classification:	N/A			
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)			
, ,	•		nal Circumstances" prese				
Are Vegetation X, Soil , or Hydrol			•				
Are Vegetation, Soil, or Hydrol			l, explain any answers in				
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	ions, transects, ım	portant features, etc.			
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled A	ea				
Hydric Soil Present?	Yes X No	within a Wetland?		No			
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 18J				
Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Area mowed; regrowth to about 6in, making vegetation IDs reliable.							
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)			
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks				
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (, ,			
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)					
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)					
Water Marks (B1)	Hydrogen Sulfide Odor (0	C1)	X Crayfish Burrows (C				
Sediment Deposits (B2)	Oxidized Rhizospheres o	on Living Roots (C3)	Saturation Visible or	n Aerial Imagery (C9)			
Drift Deposits (B3)	Presence of Reduced Iro	on (C4)	Stunted or Stressed	Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Positio	n (D2)			
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	3)			
Inundation Visible on Aerial Imagery (B7	Other (Explain in Remark	ks)	Microtopographic R	elief (D4)			
Sparsely Vegetated Concave Surface (B	i8)		X FAC-Neutral Test (D5)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inches):						
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):		_				
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present?	Yes <u>X</u> No			
(includes capillary fringe)	19 Service II - swipt whates was	' !astiona) if	9-61-				
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, pre	vious inspections), ii	available:				
Remarks: Wetland hydrology is indicated.							

VEGETATION – Use scientific names of plants. Sampling Point: DP25 Dominant Absolute Indicator <u>Tree Stratum</u> (Plot size: 30 ft) % Cover Status **Dominance Test worksheet:** Species? 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 2 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15 ft OBL species x 1 = **FACW** species 90 x 2 = 180 0 FAC species x 3 = 0 x 4 = 0 3. FACU species 0 UPL species x 5 = 5. Column Totals: 90 180 Prevalence Index = B/A = 2.00 6. **Hydrophytic Vegetation Indicators:** X 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5 ft) X 2 - Dominance Test is >50% Phalaris arundinacea Yes **FACW** X 3 - Prevalence Index is ≤3.0¹ Phragmites australis 4 - Morphological Adaptations¹ (Provide supporting 2. Yes **FACW** data in Remarks or on a separate sheet) 3. 4. Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 90 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation No____ Present? Yes X =Total Cover Remarks: (Include photo numbers here or on a separate sheet.) Vegetation matted due to mowing. Hydrophytic vegetation is present.

Depth	ription: (Describe t Matrix	to the de		ıment t ı k Featuı		ator or co	onfirm the absence of	indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	s
0-6	10YR 3/1						Loamy/Clayey			
6-18	10YR 4/2	98	7.5YR 4/6	2	С	M	Sandy	Prominent	redox co	oncentrations
0 10	1011(4/2		7.011(4/0				Curidy	TTOTTITICIT	TCGOX CC	onochi dilono
	oncentration, D=Depl	letion, RN	M=Reduced Matrix, M	1S=Mas	ked San	d Grains.	² Location: PL			
Hydric Soil			Dawle Confess (27/			Indicators fo		-	
Histosol	oipedon (A2)		Dark Surface (S		co (S8) (I DD D		ck (A10) (LRI airie Redox (<i>l</i>		
Black Hi			MLRA 149B		CE (30) (LKK K,				(LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surfa) (LRR R	. MLRA 1		Below Surfa		
	Layers (A5)		High Chroma S					Surface (S9		
	d Below Dark Surface	e (A11)	Loamy Mucky I							(LRR K, L, R)
Thick Da	ark Surface (A12)		Loamy Gleyed	Matrix ((F2)		Piedmont	Floodplain S	Soils (F19) (MLRA 149B)
Mesic S	podic (A17)		Depleted Matrix	x (F3)			Red Pare	ent Material (F	=21) (out	side MLRA 145)
	A 144A, 145, 149B)		Redox Dark Su	`	,			llow Dark Su		2)
	lucky Mineral (S1)		Depleted Dark		, ,		Other (Ex	plain in Rem	arks)	
	Sleyed Matrix (S4)		Redox Depress	•	8)		31			tation and
X Sandy R	Matrix (S6)		Marl (F10) (LR) Red Parent Ma		:21\/MLI	DA 145\		s of hydroph	-	
Stripped	Wattix (30)		Red Falent Wa	iteriai (i	21) (IVILI	XA 145)	wetland hydrology must be present, unless disturbed or problematic.			
Restrictive I	Layer (if observed):						ueee	4.0.0.000	p. 0 2.0	
Type:	,									
Depth (ir	nches):						Hydric Soil Presen	t? Y	es X	No
Remarks:	<u> </u>									
	are present. Hydric s	soils indic	ators Sandy Redox (S5) and	d Deplete	d Below I	Dark Surface (A11) are	satisfied.		



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNAT	ΓΙΟΝ <u>AL AIRPORT (PHN)</u> Cit	ty/County: St Clair		Sampling Date: 10/5/22				
Applicant/Owner: St. Clair County			State: N	MI Sampling Point: DP26				
Investigator(s): Brauna Hartzell, Mead & Hun	t, Inc.	Section, Town	ship, Range: Sect	tion 3, T5N, R16E				
Landform (hillside, terrace, etc.): Terrace/m		ef (concave, convex,		Slope %: 1%				
Subregion (LRR or MLRA): LRR L, MLRA 99		•	32.543890	Datum: WGS84				
Soil Map Unit Name: Allendale-Latty complex			NWI classificati					
			_					
Are climatic / hydrologic conditions on the site		Yes		no, explain in Remarks.)				
Are Vegetation, Soil, or Hydrol			Circumstances" p					
Are Vegetation, Soil, or Hydrol	ogynaturally problematic?	? (If needed, e	explain any answe	ers in Remarks.)				
SUMMARY OF FINDINGS – Attach	site map showing sampli	ing point locatio	ns, transects	, important features, etc.				
Hydrophytic Vegetation Present?	Yes X No I	Is the Sampled Area	1	1				
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No X				
Wetland Hydrology Present?	Yes No X	If yes, optional Wetla	nd Site ID:					
An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Data point taken within woodland area on elevated area.								
L HYDROLOGY								
Wetland Hydrology Indicators:		<u></u>	econdary Indicato	ors (minimum of two required)				
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cr	racks (B6)				
Surface Water (A1)	Water-Stained Leaves (B9)	·	Drainage Patte					
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)						
Saturation (A3)	Marl Deposits (B15)	_	Dry-Season Wa	· ·				
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrov	` ,				
Sediment Deposits (B2)	Oxidized Rhizospheres on L			ble on Aerial Imagery (C9)				
Drift Deposits (B3)	Presence of Reduced Iron (` ′		essed Plants (D1)				
Algal Mat or Crust (B4) Iron Deposits (B5)	Recent Iron Reduction in Til Thin Muck Surface (C7)	lied Solis (Co)	Geomorphic Po Shallow Aquita	, ,				
Inundation Visible on Aerial Imagery (B7)		_	Shallow Aquita Microtopograph					
Sparsely Vegetated Concave Surface (Bi		_	FAC-Neutral Te	·				
Field Observations:	<u></u>			301 (30)				
Surface Water Present? Yes	No X Depth (inches):							
Water Table Present? Yes	No X Depth (inches):							
Saturation Present? Yes	No X Depth (inches):	Wetland I	Hydrology Prese	nt? Yes No X				
(includes capillary fringe)								
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, previo	ous inspections), if av	ailable:					
Remarks: Wetland hydrology is neither present nor indic	cated.							

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of pla	Sampling Point:	DP26			
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Populus tremuloides	65	Yes	FAC	Number of Dominant Species	
2. Pinus strobus	15	No	FACU	That Are OBL, FACW, or FAC:	4 (A)
3. Betula papyrifera	5	No	FACU	Total Number of Dominant	
4.				Species Across All Strata:	5 (B)
5		<u> </u>		Percent of Dominant Species	
6					80.0% (A/B)
7				Prevalence Index worksheet:	
	85	=Total Cover		Total % Cover of: Mu	ultiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 =	0
1. Frangula alnus	5	Yes	FAC	FACW species 0 x 2 =	0
2. Elaeagnus umbellata	5	Yes	UPL	FAC species <u>85</u> x 3 =	255
3				FACU species 20 x 4 =	80
4				UPL species 5 x 5 =	25
5				Column Totals: 110 (A)	360 (B)
6.				Prevalence Index = B/A =	3.27
7				Hydrophytic Vegetation Indicators:	
	10	=Total Cover		1 - Rapid Test for Hydrophytic Ve	getation
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%	
1. Frangula alnus	10	Yes	FAC	3 - Prevalence Index is ≤3.0 ¹	
 Solidago rugosa 3. 	5	Yes	FAC	4 - Morphological Adaptations ¹ (Pi	
4.				Problematic Hydrophytic Vegetation	on ¹ (Explain)
5 6				¹ Indicators of hydric soil and wetland he present, unless disturbed or proble	
7				Definitions of Vegetation Strata:	
8				Tree – Woody plants 3 in. (7.6 cm) or	more in
9				diameter at breast height (DBH), regal	
10		<u> </u>		Sapling/shrub – Woody plants less th	
11.				and greater than or equal to 3.28 ft (1	m) tall.
12	15	=Total Cover		Herb – All herbaceous (non-woody) plot of size, and woody plants less than 3.3	
Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines great	er than 3.28 ft in
1		· ——		height.	
2.				Hydrophytic	
3.				Vegetation	
4				Present? Yes X No	
		=Total Cover			

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

Hydrophytic vegetation is present. Frangula alnus in herb layer are shoots. Little herbacous vegetation present. About 35 ft separates this sampling point from its paired wetland sampling point (DP25) with 1-2 ft change in elevation

Profile Desc Depth	ription: (Describe t Matrix	o the de		ument th ox Featur		ator or co	onfirm the absence of indic	ators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	rks
0-6	10YR 3/1	100					Loamy/Clayey		
6-13	10YR 5/3	100					Sandy		
13-18	7.5YR 5/6	100					Sandy		
13-10	7.511(5/0	100					Gandy		_
									_
¹Type: C=Co	oncentration, D=Depl	etion, RN		MS=Mas	ked San	d Grains.	² Location: PL=Por	e Lining, M=Ma	atrix.
Hydric Soil I	ndicators:						Indicators for Pro	-	
Histosol	` '		Dark Surface (` '	(20) (10) (LRR K, L,	•
Histic Epipedon (A2) Black Histic (A3) Polyvalue Below Surface (S8) (LRR R MLRA 149B)				LRR R,		Redox (A16) (L l	RR K, L, R)) (LRR K, L, R)		
	n Sulfide (A4)		Thin Dark Surf	,	(LRR R	. MLRA 1		ow Surface (S8	
	Layers (A5)		High Chroma S		-			ace (S9) (LRR	
Depleted	Below Dark Surface	(A11)	Loamy Mucky	Mineral	(F1) (LR I	R K, L)	Iron-Manganes	se Masses (F12	2) (LRR K, L, R)
	rk Surface (A12)		Loamy Gleyed		F2)				19) (MLRA 149B)
	oodic (A17) A 144A, 145, 149B)		Depleted Matri Redox Dark St		:6)			aterial (F21) (o u Dark Surface (F	utside MLRA 145)
	ucky Mineral (S1)		Depleted Dark	-	-		Other (Explain	-	22)
	leyed Matrix (S4)		Redox Depres					,	
	edox (S5)		Marl (F10) (LR	RK, L)			³ Indicators of h	nydrophytic veg	etation and
Stripped	Matrix (S6)		Red Parent Ma	aterial (F	21) (MLF	RA 145)		rology must be	
Restrictive I	_ayer (if observed):						uniess distu	rbed or problen	natic.
Type:	-uyo. (oboo. rou).								
Depth (in	nches):						Hydric Soil Present?	Yes	No X
Remarks:									
Hydric soils a	are not present. Does	not mee	et hydric soils criteria	١.					



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNAT	ΓΙΟΝ <mark>AL AIRPORT (PHN)</mark>	City/County: St Clair		Sampling Date: 10/5/22			
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP27			
Investigator(s): Brauna Hartzell, Mead & Hunt	t, Inc.	Section, Tow	vnship, Range: Section 3	, T5N, R16E			
Landform (hillside, terrace, etc.): Basin		elief (concave, convex	·	Slope %: <1%			
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.541916	Datum: WGS84			
Soil Map Unit Name: Rousseau fine sand, 0 to				N/A			
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)			
, ,	,,						
Are Vegetation X, Soil , or Hydrol			al Circumstances" prese				
Are Vegetation, Soil, or Hydrol			, explain any answers in	•			
SUMMARY OF FINDINGS – Attach	site map showing samp	pling point locati	ions, transects, im	portant features, etc.			
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Are	ea				
	Yes X No	within a Wetland?		No			
Wetland Hydrology Present?	Yes X No	If yes, optional Wetl					
Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Area mowed, about 6in of regrowth. Vegetation IDs mostly based on unmown reference area nearby.							
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)			
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks	(B6)			
Surface Water (A1)	Water-Stained Leaves (B	.9)	Drainage Patterns (I	·			
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)					
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)					
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (C				
Sediment Deposits (B2)	Oxidized Rhizospheres or			n Aerial Imagery (C9)			
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stressed				
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Position				
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D				
Inundation Visible on Aerial Imagery (B7)	· · · ·	(S)	Microtopographic Re				
Sparsely Vegetated Concave Surface (B	3)	 -	X FAC-Neutral Test (D)5)			
Field Observations:	N- V Donth (inches)						
Surface Water Present? Yes	No X Depth (inches): No X Depth (inches):						
Water Table Present? Yes	No X Depth (inches):		Understage Brosont?	Van V No			
Saturation Present? Yes (includes capillary fringe)	No X Depth (inches):		d Hydrology Present?	YesX_ No			
Describe Recorded Data (stream gauge, mon	nitoring well aerial photos, prev	vious inspections), if a	availahle.				
20001100 110001402 2212 (01.22 32.23.)	moning won, asias picture, p	vious ineposition,	avanabio.				
Remarks: No late season water table noted. Wetland hy	ydrology is indicated.						

VEGETATION – Use scientific names of plants. Sampling Point: DP27 Absolute Dominant Indicator <u>Tree Stratum</u> (Plot size: 30 ft) % Cover Status **Dominance Test worksheet:** Species? 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 2 (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 2 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: Multiply by: =Total Cover Total % Cover of: Sapling/Shrub Stratum (Plot size: 15 ft OBL species x 1 = **FACW** species 30 x 2 = 2. FAC species 15 x 3 = 45 x 4 = 0 3. FACU species 0 0 4. UPL species x 5 = 5. Column Totals: 100 160 Prevalence Index = B/A = 1.60 6. **Hydrophytic Vegetation Indicators:** 7. X 1 - Rapid Test for Hydrophytic Vegetation =Total Cover Herb Stratum (Plot size: 5 ft) X 2 - Dominance Test is >50% Cladium mariscoides Yes OBL X 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting 2. 30 **FACW** Phalaris arundinacea Yes data in Remarks or on a separate sheet) 3. Typha angustifolia 15 No OBL 4. Athyrium angustum 15 No **FAC** Problematic Hydrophytic Vegetation¹ (Explain) 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic.

=Total Cover

Hydrophytic Vegetation Present? Y

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

Yes X No ____

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

Hydrophytic vegetation is present. Center core of wetland dominated by Phragmites.

7.

8.

9.

Profile Desc Depth	ription: (Describe t Matrix	o the de	-	ument tl x Featur		itor or co	onfirm the absence of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-7	10YR 2/1	100					Mucky Sand
7-11	10YR 4/1	100					Sandy
11-24	10YR 5/2	100					Sandy
	oncentration, D=Deple	etion, RN	/I=Reduced Matrix, N	MS=Mas	ked Sand	d Grains.	
Hydric Soil I Histosol			X Dark Surface ((S7)			Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B)
	oipedon (A2)		Polyvalue Belo	. ,	ce (S8) (I	LRR R,	Coast Prairie Redox (A16) (LRR K, L, R)
Black His			MLRA 149B		`	,	X 5 cm Mucky Peat or Peat (S3) (LRR K, L, R
Hydroge	n Sulfide (A4)		Thin Dark Surf	face (S9)	(LRR R	, MLRA 1	149B) Polyvalue Below Surface (S8) (LRR K, L)
Stratified	I Layers (A5)		High Chroma S	Sands (S	311) (LRF	R K, L)	Thin Dark Surface (S9) (LRR K, L)
Depleted	Below Dark Surface	(A11)	Loamy Mucky	Mineral	(F1) (LR I	R K, L)	Iron-Manganese Masses (F12) (LRR K, L, R
	ark Surface (A12)		Loamy Gleyed		F2)		Piedmont Floodplain Soils (F19) (MLRA 149
	oodic (A17)		Depleted Matri		.0.		Red Parent Material (F21) (outside MLRA 1
	A 144A, 145, 149B)		Redox Dark Si				Very Shallow Dark Surface (F22)
	lucky Mineral (S1) leyed Matrix (S4)		Depleted Dark Redox Depres				Other (Explain in Remarks)
	edox (S5)		Marl (F10) (LR		3)		³ Indicators of hydrophytic vegetation and
	Matrix (S6)		Red Parent Ma		21) (MI F	RA 145)	wetland hydrology must be present,
					/ (,	unless disturbed or problematic.
Restrictive L	_ayer (if observed):						
Type:							
Depth (ir	nches):						Hydric Soil Present? Yes X No
Remarks:							
Hydric soils a	are present. Hydric s	oil indica	itors Sandy Mucky M	Aineral (S	S1) and E	Oark Surfa	face (S7) are satisfied.



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNAT	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/5/22		
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP28		
Investigator(s): Brauna Hartzell, Mead & Hunt	t, Inc.	Section, Tow	vnship, Range: Section 3	3, T5N, R16E		
Landform (hillside, terrace, etc.): Midslope	Local re	elief (concave, convex		Slope %: 5-10%		
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.541914	Datum: WGS84		
Soil Map Unit Name: Rousseau fine sand, 0 to				N/A		
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)		
Are Vegetation X, Soil , or Hydrold			ial Circumstances" prese			
Are Vegetation , Soil , or Hydrold	· 		, explain any answers in			
						
SUMMARY OF FINDINGS – Attach s	site map snowing samp	Pling point locat	ions, transects, iiii	portant leatures, etc.		
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	ea			
,	Yes No X	within a Wetland?		No X		
,	Yes No _X	If yes, optional Wet	land Site ID:			
Remarks: (Explain alternative procedures he		dulan than no	-1 A	I amount to about the		
An analysis of antecedent precipitation indicate	tes that environmental condition	ons were drier than no	ormal range. Area mowe	d, regrowth to about 4in.		
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators (n	ninimum of two required)		
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks	- -		
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (, ,		
High Water Table (A2)	Aquatic Fauna (B13)	•	Moss Trim Lines (B			
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C					
Sediment Deposits (B2)	Oxidized Rhizospheres o					
Drift Deposits (B3)	Presence of Reduced Iron	on (C4)	Stunted or Stressed	d Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Positio	on (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)	- -	Shallow Aquitard (D)3)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	(S)	Microtopographic R	elief (D4)		
Sparsely Vegetated Concave Surface (B8	β)	-	FAC-Neutral Test ([D5)		
Field Observations:						
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes No _X		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mon	itoring well, aerial photos, prev	vious inspections), if a	available:			
Remarks:						
Wetland hydrology is neither present nor indic	cated.					

VEGETATION – Use scientific names of plants. Sampling Point: DP28 Absolute Dominant Indicator <u>Tree Stratum</u> (Plot size: 30 ft) % Cover Status **Dominance Test worksheet:** Species? 1. **Number of Dominant Species** 2. 0 That Are OBL, FACW, or FAC: (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 2 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 0.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15 ft OBL species x 1 = **FACW** species 10 x 2 = 20 2. FAC species 13 x 3 = 39 77 x 4 = 3. FACU species 308 UPL species 0 x 5 = 5. Column Totals: 100 Prevalence Index = B/A = 3.67 6. **Hydrophytic Vegetation Indicators:** 7. 1 - Rapid Test for Hydrophytic Vegetation =Total Cover Herb Stratum (Plot size: 5 ft) 2 - Dominance Test is >50% Gaultheria procumbens 40 Yes **FACU** 3 - Prevalence Index is ≤3.01 2. 20 **FACU** 4 - Morphological Adaptations¹ (Provide supporting Poa pratensis Yes data in Remarks or on a separate sheet) 3. Rubus hispidus 10 No **FACW** 4. Fragaria virginiana 10 No **FACU** Problematic Hydrophytic Vegetation¹ (Explain) 5. Solidago rugosa 10 No FAC ¹Indicators of hydric soil and wetland hydrology must 5 6. Achillea millefolium No **FACU** be present, unless disturbed or problematic. 7. Athyrium angustum 3 No FAC **Definitions of Vegetation Strata:** 2 8. **FACU** Pteridium aquilinum No Tree - Woody plants 3 in. (7.6 cm) or more in 9. diameter at breast height (DBH), regardless of height. 10. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 100 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes Present? No X =Total Cover Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation is not present. About 20 ft separates this sampling point from its paired wetland sampling point (DP27) with 2-3 ft change in elevation

Depth	ription: (Describe t Matrix	to the de	-	ıment ti x Featur		ator or co	onfirm the absence of ind	cators.)	
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Rema	arks
0-6	10YR 3/2	100					Loamy/Clayey		
6-7	2.5YR 7/1	100					Sandy		
7-12	10YR 5/6	100					Sandy		
12-18	2.5YR 7/1	100					Sandy		
¹ Type: C=Co	oncentration, D=Depl	etion, RN	M=Reduced Matrix, M	1S=Mas	ked San	d Grains.	² Location: PL=Pc		
Hydric Soil			Davis Confess (07)			Indicators for Pr	_	
Histosol	(A1) pipedon (A2)		Dark Surface (S		re (S8) (IRRR		.10) (LRR K, L, Redox (A16) (L	
Black Hi			MLRA 149B)		CE (30) (LKK K,			B) (LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surfa	,) (LRR R	. MLRA 1		ow Surface (S8	
	Layers (A5)		High Chroma S					face (S9) (LRR	
	Below Dark Surface	e (A11)	Loamy Mucky I						2) (LRR K, L, R)
	rk Surface (A12)		Loamy Gleyed						19) (MLRA 149B)
Mesic S	oodic (A17)		Depleted Matrix	x (F3)			Red Parent M	aterial (F21) (o	utside MLRA 145)
(MLR	A 144A, 145, 149B)		Redox Dark Su	ırface (F	- 6)		Very Shallow	Dark Surface (F	F22)
Sandy M	lucky Mineral (S1)		Depleted Dark	Surface	: (F7)		Other (Explai	n in Remarks)	
	leyed Matrix (S4)		Redox Depress	sions (F	8)				
Sandy R	edox (S5)		Marl (F10) (LR l	RK,L)			³ Indicators of	hydrophytic veg	getation and
Stripped	Matrix (S6)		Red Parent Ma	terial (F	21) (MLF	RA 145)	•	drology must be	•
Restrictive I	_ayer (if observed):						uniess disti	ırbed or probler	natic.
Type:	zayor (ii oboorvou).								
Depth (ir	nches):						Hydric Soil Present?	Yes	No X
Remarks:									
Hydric soils a	are not present. Does	not mee	et hydric soils criteria.						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/5/22				
Applicant/Owner: St. Clair County			State: 1	MI Sampling Point: DP29				
Investigator(s): Brauna Hartzell, Mead & Hun	nt, Inc.	Section, To	wnship, Range: Sect					
Landform (hillside, terrace, etc.): Shallow so		elief (concave, conve		Slope %: 1%				
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.541372	Datum: WGS84				
Soil Map Unit Name: Rousseau fine sand, 0 t								
				_				
Are climatic / hydrologic conditions on the site		Yes		no, explain in Remarks.)				
Are Vegetation, Soil, or Hydro			nal Circumstances" p					
Are Vegetation, Soil, or Hydro	logynaturally problemat	tic? (If needed	d, explain any answe	ers in Remarks.)				
SUMMARY OF FINDINGS – Attach	site map showing samp	pling point locat	tions, transects	, important features, etc.				
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled A	rea					
Hydric Soil Present?	Yes X No	within a Wetland?		X No				
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 18D					
Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Data point taken within wooded/shrubby area at edge of swale/drainage way.								
HYDROLOGY								
Wetland Hydrology Indicators:			Secondary Indicato	ors (minimum of two required)				
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cr	racks (B6)				
Surface Water (A1)	Water-Stained Leaves (BS	9)	Drainage Patte					
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)					
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)				
X Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrov					
Sediment Deposits (B2)	Oxidized Rhizospheres or	• , ,		ble on Aerial Imagery (C9)				
Drift Deposits (B3)	Presence of Reduced Iron	` '		essed Plants (D1)				
Algal Mat or Crust (B4) Iron Deposits (B5)	Recent Iron Reduction in Thin Muck Surface (C7)	Tilled Solis (Co)	X Geomorphic Po Shallow Aquita					
Inundation Visible on Aerial Imagery (B7		re)	Microtopograph					
Sparsely Vegetated Concave Surface (B	· 	.3)	X FAC-Neutral Te					
Field Observations:	<u></u>			301 (23)				
Surface Water Present? Yes	No X Depth (inches):							
Water Table Present? Yes	No X Depth (inches):							
Saturation Present? Yes	No X Depth (inches):		d Hydrology Prese	nt? Yes X No				
(includes capillary fringe)								
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, prev	vious inspections), if	available:					
Remarks: Wetland hydrology is indicated.								

VEGETATION –	Use	scientific	names o	of plants.
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'EGETATION – Use scientific names of pla	Sampling Point: DP29						
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. Populus tremuloides	70	Yes	FAC	Number of Dominant Species			
2.				That Are OBL, FACW, or FAC:	4 (A)		
3.				Total Number of Dominant			
4				Species Across All Strata:	5 (B)		
5				Percent of Dominant Species			
6				That Are OBL, FACW, or FAC:	80.0% (A/B)		
7				Prevalence Index worksheet:			
	70	=Total Cover		Total % Cover of: Mu	ultiply by:		
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 =	0		
1. Alnus incana	40	Yes	FACW	FACW species 60 x 2 =	120		
2. Frangula alnus	5	No	FAC	FAC species 90 x 3 =	270		
3. Prunus pensylvanica	5	No	FACU	FACU species15 x 4 =	60		
4. Fraxinus pennsylvanica	5	No	FACW	UPL species 0 x 5 =	0		
5.				Column Totals: 165 (A)	450 (B)		
6.				Prevalence Index = B/A =	2.73		
7.				Hydrophytic Vegetation Indicators:			
	55	=Total Cover		1 - Rapid Test for Hydrophytic Ve	getation		
Herb Stratum (Plot size: 5 ft)		•		X 2 - Dominance Test is >50%			
1. Onoclea sensibilis	15	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹			
2. Solidago rugosa	10	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting			
3. Pteridium aquilinum	10	Yes	FACU	data in Remarks or on a separate sheet)			
4. Symphyotrichum lateriflorum	5	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)			
5.				<u> </u>			
6.				¹ Indicators of hydric soil and wetland he present, unless disturbed or proble			
7.				Definitions of Vegetation Strata:			
B.				Trans. Was developed to 0 in (7.0 and) and			
9.				Tree – Woody plants 3 in. (7.6 cm) or diameter at breast height (DBH), rega			
10.				Sapling/shrub – Woody plants less the	nan 3 in DBU		
11.				and greater than or equal to 3.28 ft (1			
12.				Horb All borb cooks (non-vice dis)			
	40	=Total Cover		Herb – All herbaceous (non-woody) p of size, and woody plants less than 3.	-		
Woody Vine Stratum (Plot size: 15 ft)		•					
1.				Woody vines – All woody vines great height.	er than 3.28 ft in		
2.							
3.				Hydrophytic			
4.				Vegetation Present? Yes X No			
		=Total Cover					
4Remarks: (Include photo numbers here or on a separ	rate sheet)	=Total Cover		_	<u> </u>		

Profile Desc Depth	ription: (Describe t Matrix	to the de	epth needed to document the indicator or co Redox Features				onfirm the absence of indic	of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-10	10YR 2/1	100	, , , ,				Loamy/Clayey		
10-16	10YR 5/1	100					Sandy		
16-20	10YR 5/3	100					Sandy		
10 20	1011(0/0	100					Canay		
			-						
¹ Type: C=Co	oncentration, D=Depl	etion, RI	л=Reduced Matrix, N	ฟS=Mas	ked Sand	d Grains.	² Location: PL=Pore	e Lining, M=Matrix.	
Hydric Soil Indicators:								blematic Hydric Soils ³ :	
Histosol			Dark Surface (S7)				2 cm Muck (A10) (LRR K, L, MLRA 149B)		
Black Hi	oipedon (A2) stic (A3)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B)				Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
	n Sulfide (A4)		Thin Dark Surface (S9) (LRR R, MLRA 1						
Stratified	I Layers (A5)		High Chroma Sands (S11) (LRR K, L)				Thin Dark Surface (S9) (LRR K, L)		
	Below Dark Surface	e (A11)	Loamy Mucky Mineral (F1) (LRR K, L)				Iron-Manganese Masses (F12) (LRR K, L, R)		
Thick Dark Surface (A12)			Loamy Gleyed Matrix (F2)					dplain Soils (F19) (MLRA 149B)	
Mesic Spodic (A17) (MLRA 144A, 145, 149B)			Depleted Matrix (F3) Redox Dark Surface (F6)				Red Parent Material (F21) (outside MLRA 145) Very Shallow Dark Surface (F22)		
Sandy Mucky Mineral (S1)			Depleted Dark Surface (F7)				Other (Explain		
Sandy Gleyed Matrix (S4)			Redox Depressions (F8)						
Sandy Redox (S5)			Mari (F10) (LRR K, L)				³ Indicators of hydrophytic vegetation and		
Stripped Matrix (S6)			Red Parent Material (F21) (MLRA 145)				wetland hydrology must be present, unless disturbed or problematic.		
Restrictive I	_ayer (if observed):						unicss distai	bed of problematic.	
Type:	,								
Depth (inches):							Hydric Soil Present?	Yes X No	
Remarks:									
Hydric soils a	are present. Hydric s	oils indic	ator Depleted Below	<i>ι</i> Dark Sι	urface (A	.11) is sat	isfied.		



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/5/22				
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP30				
Investigator(s): Brauna Hartzell, Mead & Hur	nt, Inc.	Section, Tow	vnship, Range: Section 3	3, T5N, R16E				
Landform (hillside, terrace, etc.): Midslope	Local r	relief (concave, convex		Slope %: 1-2%				
Subregion (LRR or MLRA): LRR L, MLRA 9	•		-82.539589	Datum: WGS84				
Soil Map Unit Name: Rousseau fine sand, 0 to			NWI classification:					
Are climatic / hydrologic conditions on the site		Yes	— No X (If no. (explain in Remarks.)				
Are Vegetation, Soil, or Hydro			al Circumstances" prese					
Are Vegetation , Soil , or Hydro			, explain any answers in					
<u> </u>			-					
SUMMARY OF FINDINGS – Attach	Site map showing sam	piing point iocati	ions, transects, iiii	portant reatures, etc.				
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	ea	1				
Hydric Soil Present?	Yes No X	within a Wetland?	within a Wetland? Yes No X					
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:					
Remarks: (Explain alternative procedures he								
An analysis of antecedent precipitation indica	ates that environmental condition	ons were drier normal	range. Data point taken	within wooded area.				
				1				
HYDROLOGY								
Wetland Hydrology Indicators:	·		Secondary Indicators (m	ninimum of two required)				
Primary Indicators (minimum of one is require	ed: check all that apply)		Surface Soil Cracks					
Surface Water (A1)	Water-Stained Leaves (E	 39)	Drainage Patterns (B10)					
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)					
Saturation (A3)	Marl Deposits (B15)	•	Dry-Season Water	·				
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)					
Sediment Deposits (B2)	Oxidized Rhizospheres of							
Drift Deposits (B3)	Presence of Reduced Iro	• • • • •	Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)	Recent Iron Reduction in		` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `					
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7		•	Microtopographic Relief (D4)					
Sparsely Vegetated Concave Surface (B			FAC-Neutral Test (
Field Observations:	<u></u>	<u>-</u>						
	No X Depth (inches):							
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):							
Saturation Present? Yes	No X Depth (inches):		Wetland Hydrology Present? Yes No X					
(includes capillary fringe)	No X Doptii (monos).		Triyarology i 1000ii	100				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
2.2.2.2.2.2.2.2.3.2.2.3.3.3.3.3.3.3.3.3								
Remarks:								
Wetland hydrology is neither present nor indi	icated.							

VEGETATION – Use scientific names of plants.

EGETATION – Use scientific names of pla	Sampling Point:	DP30					
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. Prunus pensylvanica	30	Yes	FACU	Number of Dominant Species			
2. Populus grandidentata	25	Yes	FACU	That Are OBL, FACW, or FAC:	4 (A)		
3. Populus tremuloides	15	Yes	FAC	Total Number of Dominant			
4.				Species Across All Strata:	8 (B)		
5.				Percent of Dominant Species			
6.				That Are OBL, FACW, or FAC:	50.0% (A/B)		
7.				Prevalence Index worksheet:			
	70	70 =Total Cover Total % C		Total % Cover of: M	over of: Multiply by:		
Sapling/Shrub Stratum (Plot size: 15 ft)		•		OBL species 0 x 1 =	0		
1. Prunus pensylvanica	15	Yes	FACU	FACW species 5 x 2 =	10		
2.				FAC species 30 x 3 =	90		
3.				FACU species 75 x 4 =	300		
4.				UPL species 0 x 5 =	0		
5.				Column Totals: 110 (A)	400 (B)		
6.				Prevalence Index = B/A =	3.64		
7.				Hydrophytic Vegetation Indicators	:		
	15	=Total Cover		1 - Rapid Test for Hydrophytic Ve			
Herb Stratum (Plot size: 5 ft)		•		2 - Dominance Test is >50%			
1. Solidago rugosa	10	Yes	FAC	3 - Prevalence Index is ≤3.0 ¹			
2. Frangula alnus		Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting			
3. Fraxinus pennsylvanica	5	Yes	FACW	data in Remarks or on a separate sheet)			
4. Prunus pensylvanica	5	Yes	FACU	Problematic Hydrophytic Vegetat	ion ¹ (Explain)		
5.				<u> </u>			
6.				¹ Indicators of hydric soil and wetland be present, unless disturbed or proble			
7.	-			Definitions of Vegetation Strata:			
8.							
9.				Tree – Woody plants 3 in. (7.6 cm) or diameter at breast height (DBH), regard			
10.							
11.				Sapling/shrub – Woody plants less to and greater than or equal to 3.28 ft (1			
12.							
	25	=Total Cover		Herb – All herbaceous (non-woody) pof size, and woody plants less than 3			
Woody Vine Stratum (Plot size: 15 ft)		·					
1.				Woody vines – All woody vines greatheight.	ter than 3.28 ft in		
2.				neight.			
3.				Hydrophytic			
4.				Vegetation Present? Yes No	· ×		
·		=Total Cover		NO	<u> </u>		
		- rotal Cover		1			

Hydrophytic vegetation is not present. Fails the Prevalence Index @ 3.64. Green ash, pin cherry, and glossy buckthorn shoots in herb stratum. Little herbaceous cover. Multiflora rose also present.

Depth	matrix	o tne ae		ı ment tı x Featur		ator or co	onfirm the absence of indic	cators.)			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	rks		
0-8	10YR 3/1	100					Loamy/Clayey				
8-9	7.5YR 5/6	100					Sandy				
9-11	2.5YR 7/1	100					Sandy				
11-16	10YR 5/6	100					Sandy				
										_	
										_	
										_	
	oncentration, D=Deple	etion, RN	1=Reduced Matrix, N	1S=Mas	ked San	d Grains.	² Location: PL=Por				
Hydric Soil I Histosol			Dark Surface (S7)			Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B)				
Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R,				LRR R,		Redox (A16) (LI	•				
Black Histic (A3) MLRA 149B)					eat or Peat (S3)		.)				
Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA			, MLRA 1	Polyvalue Beld	ow Surface (S8)	(LRR K, L)					
Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L)			R K, L)	Thin Dark Surf	face (S9) (LRR	K, L)					
Depleted	l Below Dark Surface	(A11)	Loamy Mucky	Mineral	(F1) (LR	RK, L)	Iron-Mangane	se Masses (F12	2) (LRR K, L, F	₹)	
Thick Da	ark Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
Mesic Sp	oodic (A17)		Depleted Matri	x (F3)			Red Parent Material (F21) (outside MLRA 145)				
	A 144A, 145, 149B)		Redox Dark Su				Very Shallow Dark Surface (F22)				
	lucky Mineral (S1)		Depleted Dark				Other (Explain in Remarks)				
	leyed Matrix (S4)		Redox Depress		8)		3				
	edox (S5)		Marl (F10) (LR					nydrophytic veg			
Stripped	Matrix (S6)		Red Parent Ma	iterial (F	21) (ML F	RA 145)		rology must be rbed or problem			
Restrictive L	_ayer (if observed):										
Type:											
Depth (in	nches):						Hydric Soil Present?	Yes	NoX		
Remarks:	D		t buduin naila autauin								
Hydric soils a	are not present. Does	not mee	t nyanc sons criteria	•							



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNAT	IONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/7/22				
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP31				
Investigator(s): Brauna Hartzell, Mead & Hunt,	, Inc.	Section, Tow	vnship, Range: Section 2	 2, T5N, R16E				
Landform (hillside, terrace, etc.): Depression	Local re	elief (concave, convex	k, none): Concave	Slope %: 1%				
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.538313	 Datum: WGS84				
Soil Map Unit Name: Allendale-Lenawee-Toledo				N/A				
Are climatic / hydrologic conditions on the site t		Yes		explain in Remarks.)				
Are Vegetation , Soil , or Hydrologic	•		al Circumstances" prese					
Are Vegetation, Soil, or Hydrold			, explain any answers in	•				
SUMMARY OF FINDINGS – Attach s	ite map showing samp	oling point locat	ions, transects, im	portant features, etc.				
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea					
Hydric Soil Present?	Yes X No	within a Wetland?		No				
Wetland Hydrology Present?	Yes X No	If yes, optional Wet	land Site ID: 23B					
Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Data point taken in depressional area within forested area.								
HYDROLOGY								
Wetland Hydrology Indicators:			Secondary Indicators (n	ninimum of two required)				
Primary Indicators (minimum of one is required	d; check all that apply)		Surface Soil Cracks	s (B6)				
Surface Water (A1)	X Water-Stained Leaves (B9	9)	Drainage Patterns (B10)				
High Water Table (A2)	Aquatic Fauna (B13)	,	Moss Trim Lines (B	·				
Saturation (A3)	Marl Deposits (B15)	,	Dry-Season Water					
X Water Marks (B1)	Hydrogen Sulfide Odor (C							
Sediment Deposits (B2)	Oxidized Rhizospheres on							
Drift Deposits (B3)	Presence of Reduced Iron	•	Stunted or Stressed	` '				
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Positio					
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	· ·				
Inundation Visible on Aerial Imagery (B7)		s)	Microtopographic R					
X Sparsely Vegetated Concave Surface (B8	·)		FAC-Neutral Test (I	05)				
Field Observations:	V Double (book on)							
	No X Depth (inches):							
Water Table Present? Yes	No X Depth (inches):		Literaturate my Dunnanto	Vaa V Na				
	No X Depth (inches):	vvetiand	d Hydrology Present?	Yes <u>X</u> No				
(includes capillary fringe) Describe Recorded Data (stream gauge, moni	itoring well aerial photos prev	/ious inspections) if :	availahle.					
Describe Necorded Data (officerit gauge,	tolling well, deliai prietes, p. s.	inopodicito,, c	avaliable.					
Remarks: Wetland hydrology is indicated. Water-stained vegetated concave surface.	leaves throughout; water mark	ks on several trees. I	No herbaceous layer pre	esent - Sparsely				

	Absolute	Dominant	Indicator	
Free Stratum (Plot size: 30 ft)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	65	Yes	FAC	Number of Dominant Species
2. Quercus rubra	20	Yes	FACU	That Are OBL, FACW, or FAC: 2 (A)
3. Ulmus americana	10	No	FACW	Total Number of Dominant
l				Species Across All Strata: 3 (B)
5				Percent of Dominant Species
S				That Are OBL, FACW, or FAC: 66.7% (A/B)
,				Prevalence Index worksheet:
	95	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 = 0
Fraxinus pennsylvanica	20	Yes	FACW	FACW species 30 x 2 = 60
2. Pinus strobus	5	No	FACU	FAC species 70 x 3 = 210
3. Frangula alnus	5	No	FAC	FACU species 27 x 4 = 108
I. Hamamelis virginiana	2	No	FACU	UPL species 0 x 5 = 0
<u></u>				Column Totals: 127 (A) 378 (B)
				Prevalence Index = B/A = 2.98
·				Hydrophytic Vegetation Indicators:
	32	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%
				\overline{X} 3 - Prevalence Index is $\leq 3.0^{1}$
<u> </u>		-		4 - Morphological Adaptations ¹ (Provide supportin
		-		data in Remarks or on a separate sheet)
				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				Froblematic Hydrophytic Vegetation (Explain)
5.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
,				Definitions of Vegetation Strata:
3				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
0.				
1.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
2				Herb – All herbaceous (non-woody) plants, regardless
		=Total Cover		of size, and woody plants less than 3.28 ft tall.
Noody Vine Stratum (Plot size: 15 ft)				Manday in a All was divising a greater than 2 20 ft in
i				Woody vines – All woody vines greater than 3.28 ft in height.
2.				
3.				Hydrophytic
4.				Vegetation Present? Yes X No
···		=Total Cover		
		I JULIA GUVEI		

Depth	Description: (Describe to the depth needed to document the indicator or co				onfirm the absence o	f indicators.)					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0-6	10YR 3/1	100					Loamy/Clayey				
6-11	10YR 5/1	98	7.5YR 4/6	2	С	M	Sandy	Prominent redox concentrations			
11-18	10YR 6/2	100					Sandy				
¹ Type: C=Co	oncentration, D=Deple	etion, RI	л=Reduced Matrix, N	์ ศS=Mas	ked San	d Grains.	² Location: P	L=Pore Lining, M=Matrix.			
Hydric Soil Indicators:								or Problematic Hydric Soils ³ :			
Histosol (A1)			Dark Surface ((00)		2 cm Muck (A10) (LRR K, L, MLRA 149B)				
			Polyvalue Belo MLRA 149B		ce (S8) (LRR R,		rairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R			
			Thin Dark Surf	,) (LRR R	. MLRA 1		ie Below Surface (S8) (LRR K, L)			
			High Chroma S					rk Surface (S9) (LRR K, L)			
			Loamy Mucky					nganese Masses (F12) (LRR K, L, R			
Thick Da	rk Surface (A12)		Loamy Gleyed	Matrix ((F2)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
	oodic (A17)		Depleted Matri				Red Parent Material (F21) (outside MLRA 145				
	A 144A, 145, 149B)		Redox Dark Su				Very Shallow Dark Surface (F22)				
	ucky Mineral (S1)		Depleted Dark		, ,		Other (Explain in Remarks)				
X Sandy R	leyed Matrix (S4)		Redox Depress Marl (F10) (LR	•	8)		³ Indicators of hydrophytic vegetation and				
	Matrix (S6)		Red Parent Ma		21) (ML I	RA 145)	wetland hydrology must be present,				
				(-	, (,	unless disturbed or problematic.				
Restrictive L	ayer (if observed):										
Type:											
Depth (in	nches):						Hydric Soil Prese	nt? Yes X No			
Remarks:											
Hydric soils a	are present. Hydric so	oil indica	tors Sandy Redox (S	35) and	Depleted	l Below D	ark Surface (A11) are	satisfied. Soils are very dry.			



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNAT	IONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/7/22		
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP32		
Investigator(s): Brauna Hartzell, Mead & Hunt	i, Inc.	Section, Tow	nship, Range: Section 2	2, T5N, R16E		
Landform (hillside, terrace, etc.): Midslope	Local re	elief (concave, convex	-	Slope %: _3-5%		
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.538284	 Datum: WGS84		
Soil Map Unit Name: Allendale-Lenawee-Toledo	· · · · · · · · · · · · · · · · · · ·			N/A		
Are climatic / hydrologic conditions on the site t		Yes		explain in Remarks.)		
Are Vegetation, Soil, or Hydrold			al Circumstances" prese			
Are Vegetation , Soil , or Hydrold			, explain any answers in			
<u> </u>						
SUMMARY OF FINDINGS – Attach s	site map showing samp	pling point locati	ons, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Are	ea			
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No X		
Wetland Hydrology Present?	Yes No X	If yes, optional Wetl	and Site ID:			
Remarks: (Explain alternative procedures her						
An analysis of antecedent precipitation indicat	tes that environmental condition	ons were drier than no	rmal range.			
HYDROLOGY						
			O	-ini		
Wetland Hydrology Indicators:	d shock all that apply)	<u>:</u>	•	ninimum of two required)		
Primary Indicators (minimum of one is require			Surface Soil Cracks Drainage Patterns (` '		
Surface Water (A1)	Water-Stained Leaves (B	. -	Drainage Patterns (I	·		
High Water Table (A2)	Aquatic Fauna (B13)	-	Moss Trim Lines (B	•		
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C					
Sediment Deposits (B2)	Oxidized Rhizospheres of					
Drift Deposits (B3)	Presence of Reduced Iron	- · · · · · · -	Stunted or Stressed			
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position			
Iron Deposits (B5)	Thin Muck Surface (C7)	-	Shallow Aquitard (D	·		
Inundation Visible on Aerial Imagery (B7)		(s) <u>-</u>	Microtopographic Re			
Sparsely Vegetated Concave Surface (B8	3)	<u>-</u>	FAC-Neutral Test (D)5)		
Field Observations:						
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches):	Wetland	Hydrology Present?	Yes No_X_		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mon	itoring well, aerial photos, prev	vious inspections), if a	ıvailable:			
Remarks:						
Wetland hydrology is neither present nor indic	cated.					

'EGETATION – Use scientific names of pla	Sampling Point:	DP32					
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. Populus grandidentata	50	Yes	FACU	Number of Dominant Species			
2. Prunus serotina	30	Yes	FACU	That Are OBL, FACW, or FAC:	0 (A)		
3. Acer rubrum	15	No	FAC	Total Number of Dominant			
4.		, <u> </u>		Species Across All Strata:	3 (B)		
5.		, <u> </u>		Percent of Dominant Species			
6.				That Are OBL, FACW, or FAC:	0.0% (A/B)		
7.				Prevalence Index worksheet:			
	95	=Total Cover		Total % Cover of: Mu	ultiply by:		
Sapling/Shrub Stratum (Plot size: 15 ft)		ı		OBL species 0 x 1 =	0		
1. Hamamelis virginiana	30	Yes	FACU	FACW species 0 x 2 =	0		
2. Berberis thunbergii	5	No	FACU	FAC species 15 x 3 =	45		
3. Prunus serotina	5	No	FACU	FACU species 120 x 4 =	480		
4.			17.00	UPL species 0 x 5 =	0		
5.	-			Column Totals: 135 (A)	525 (B)		
6.				Prevalence Index = B/A =	3.89		
				_			
7	40	=Total Cover		Hydrophytic Vegetation Indicators:			
Useh Objektive (Disk size) 5.6	40	= rotal Cover		1 - Rapid Test for Hydrophytic Ve	getation		
Herb Stratum (Plot size: 5 ft)				2 - Dominance Test is >50%			
1.				3 - Prevalence Index is ≤3.0 ¹			
2.				 4 - Morphological Adaptations¹ (Provide supportin data in Remarks or on a separate sheet) 			
3					,		
4				Problematic Hydrophytic Vegetati	on¹ (Explain)		
5				¹ Indicators of hydric soil and wetland I			
6				be present, unless disturbed or proble	matic.		
7				Definitions of Vegetation Strata:			
8				Tree – Woody plants 3 in. (7.6 cm) or	more in		
9				diameter at breast height (DBH), rega			
10				Sapling/shrub – Woody plants less the	han 3 in. DBH		
11				and greater than or equal to 3.28 ft (1			
12.				Herb – All herbaceous (non-woody) p	lante regardless		
		=Total Cover		of size, and woody plants less than 3.			
Woody Vine Stratum (Plot size: 15 ft)				Woody vines All woody vines great	tor than 2 20 ft in		
1.				Woody vines – All woody vines great height.	er than 3.28 it in		
2.							
3.				Hydrophytic			
4.				Vegetation Present? Yes No	X		
		=Total Cover		1105cm: 105 NO			
		- Total Cover					

paired wetland sampling point (DP31) with 1-1.5 ft change in elevation.

Depth	Matrix	o trie de	-	r Featur		ator or co	confirm the absence of indicators.)				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks				
0-12	10YR 3/1	100					Sandy				
12-16	2.5YR 7/3	100					Sandy				
16-20	10YR 6/4	100					Sandy				
											
							·				
							·				
							· ———				
							·				
							·				
1- 0.0							21 11 21 21 11 11 11 11 11				
Hydric Soil	oncentration, D=Deplo	etion, Riv	M=Reduced Matrix, N	IS=Mas	sked Sand	d Grains.	Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :				
Histosol			Dark Surface (S7)			2 cm Muck (A10) (LRR K, L, MLRA 149B)				
Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R,				LRR R,	Coast Prairie Redox (A16) (LRR K, L, R)						
Black Histic (A3) MLRA 149B)					5 cm Mucky Peat or Peat (S3) (LRR K, L, R)						
Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA					149B) Polyvalue Below Surface (S8) (LRR K, L)						
Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L)				Thin Dark Surface (S9) (LRR K, L)							
	d Below Dark Surface	(A11)	Loamy Mucky			R K, L)	Iron-Manganese Masses (F12) (LRR K, L, R)				
	ark Surface (A12)		Loamy Gleyed		(F2)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
	podic (A17)		Depleted Matri	` '	-0)		Red Parent Material (F21) (outside MLRA 145)				
	A 144A, 145, 149B)		Redox Dark Su				Very Shallow Dark Surface (F22)				
	Mucky Mineral (S1)		Depleted Dark Redox Depress				Other (Explain in Remarks)				
	Bleyed Matrix (S4) Redox (S5)		Marl (F10) (LR	•	0)		³ Indicators of hydrophytic vegetation and				
	Matrix (S6)		Red Parent Ma		21) (MI E	PA 145\	wetland hydrology must be present,				
Stripped	Watrix (30)		Red Falent Ma	iteriai (i	21) (WILI	VA 140)	unless disturbed or problematic.				
Restrictive	Layer (if observed):										
Type:											
Depth (ii	nches):						Hydric Soil Present? Yes No _X				
Remarks:	D										
nyunc sons	are not present. Does	not mee	et nyunc sons chiena	•							



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/7/22						
Applicant/Owner: St. Clair County		·	State: MI	Sampling Point: DP33						
Investigator(s): Brauna Hartzell, Mead & Hur	nt, Inc.	Section, Tov	wnship, Range: Section 3	s, T5N, R16E						
Landform (hillside, terrace, etc.): Depression	on Local re	elief (concave, conve		Slope %: <1%						
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.541140	Datum: WGS84						
Soil Map Unit Name: Wainola-Deford fine sa				N/A						
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)						
Are Vegetation X, Soil , or Hydro			nal Circumstances" prese							
Are Vegetation , Soil , or Hydro			I, explain any answers in							
SUMMARY OF FINDINGS - ALLACII	SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	rea							
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No						
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 180							
Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were drier than normal range. Area mowed; about 4in of regrowth.										
HADBOI OCA										
HYDROLOGY										
Wetland Hydrology Indicators:	المرام فعطفال العادي		Secondary Indicators (m							
Primary Indicators (minimum of one is requir			Surface Soil Cracks	, ,						
Surface Water (A1)	Water-Stained Leaves (B	19)	Drainage Patterns (I	·						
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B:							
Saturation (A3) Water Marks (B1)	Marl Deposits (B15)	Dry-Season Water Table (C2)								
Water Marks (B1) Sediment Deposits (B2)	Hydrogen Sulfide Odor (C Oxidized Rhizospheres o									
Drift Deposits (B3)	Presence of Reduced Iro	-	Stunted or Stressed							
Algal Mat or Crust (B4)	Recent Iron Reduction in		X Geomorphic Positio	, ,						
Iron Deposits (B5)	Thin Muck Surface (C7)	Tilled Jolis (Jo)	Shallow Aquitard (D							
Inundation Visible on Aerial Imagery (B7		ve)	Microtopographic Re							
Sparsely Vegetated Concave Surface (B	· —	(3)	X FAC-Neutral Test (
Field Observations:		<u> </u>	<u> </u>							
	No X Depth (inches):									
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):									
Saturation Present? Yes	No X Depth (inches):		d Hydrology Present?	Yes X No						
(includes capillary fringe)			u 11, g,	<u> </u>						
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre	vious inspections), if	available:							
	-	•								
Remarks: Wetland hydrology is indicated.										

VEGETATION – Use scientific names of plants. Sampling Point: DP33 Absolute Dominant Indicator Tree Stratum (Plot size: 30 ft) % Cover Species? Status **Dominance Test worksheet:** 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 2 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15 ft OBL species x 1 = 10 ___ 40 Cornus alba **FACW FACW** species 20 x 2 = 2. 0 0 FAC species x 3 = x 4 = FACU species 10 40 3. 0 4. UPL species x 5 = 5 6 7

5		_		Column Totals: 110 (A) 160 (B)				
6.				Prevalence Index = B/A = 1.45				
7				Hydrophytic Vegetation Indicators:				
	10	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation				
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%				
1. Carex pellita	75	Yes	OBL	X 3 - Prevalence Index is ≤3.0 ¹				
2. Phalaris arundinacea	10	No	FACW	4 - Morphological Adaptations ¹ (Provide supporting				
3. Fragaria virginiana	10	No	FACU	data in Remarks or on a separate sheet)				
4. Iris virginica	5	No	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)				
5				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
7				Definitions of Vegetation Strata:				
8.								
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
10.								
11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
12				Herb – All herbaceous (non-woody) plants, regardless				
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.				
Woody Vine Stratum (Plot size:15 ft)				Woody vines – All woody vines greater than 3.28 ft in				
1				height.				
2.								
3				Hydrophytic Vegetation				
4				Present? Yes X No No				
		=Total Cover						
Remarks: (Include photo numbers here or on a separa	ate sheet.)		•				

Depth	ription: (Describe t Matrix	o tne de	•	ıment t ı x Featur		ator or co	onfirm the absence o	e of indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	i
0-10	10YR 3/1	100					Loamy/Clayey			
10-22	10YR 4/1	97	7.5YR 4/6	3	С	М	Loamy/Clayey	Prominent redox concentration		ncentrations
						<u> </u>				
		_		_						
1T C-C-			4—Deduced Matrix A		Lead Care		21	Ol –Dana Linina	N.4—N.4—4=i	
	¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Gra Hydric Soil Indicators:							PL=Pore Lining for Problemati		
Histosol Histic Ep Black His Hydroger Stratified X Depleted Thick Da Mesic Sp (MLR. Sandy M Sandy G Sandy R	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) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, MLRA HLRA HLRA HLRA HLRA HLRA HLRA HLRA H				, MLRA 1 R K, L) R K, L)	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) 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)				
Type: _ Depth (in	nches):						Hydric Soil Prese	ent? Ye	es_X_	No
Remarks: Hydric soils a	are present. Hydric s	oil indica	tors Depleted Below	Dark S	urface (A	.11) and [Depleted Matrix (F3)	are satisfied.		



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/7/22			
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP34			
Investigator(s): Brauna Hartzell, Mead & Hur	nt, Inc.	Section, Township	p, Range: Section 3,	, T5N, R16E			
Landform (hillside, terrace, etc.): Midslope	Local re	elief (concave, convex, nor	•	Slope %: 3-5%			
Subregion (LRR or MLRA): LRR L, MLRA 9		Long: -82.5	·	 Datum: WGS84			
Soil Map Unit Name: Wainola-Deford fine sa				N/A			
Are climatic / hydrologic conditions on the site			No X (If no, e				
Are Vegetation X, Soil , or Hydro			rcumstances" preser				
Are Vegetation , Soil , or Hydro	<u></u>		lain any answers in I				
	<u> </u>		•	,			
SUMMARY OF FINDINGS – Attach	site map snowing sami	pling point locations	s, transects, imp	portant 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 he							
An analysis of antecedent precipitation indica	ates that environmental condition	ons were drier than normal	range. Area mowed	d, about 4in of regrowth.			
I							
LIVEROLOCV							
HYDROLOGY							
Wetland Hydrology Indicators:		·		inimum of two required)			
Primary Indicators (minimum of one is requir			Surface Soil Cracks	` '			
Surface Water (A1)	Water-Stained Leaves (B	· —	Drainage Patterns (E	•			
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B1	·			
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)					
Water Marks (B1)	Hydrogen Sulfide Odor (0						
Sediment Deposits (B2)	Oxidized Rhizospheres o	s on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)					
Drift Deposits (B3)	Presence of Reduced Iro	n (C4)	Stunted or Stressed	Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position	า (D2)			
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3	3)			
Inundation Visible on Aerial Imagery (B7	Other (Explain in Remark	(s) <u> </u>	Microtopographic Re	elief (D4)			
Sparsely Vegetated Concave Surface (E		· —	FAC-Neutral Test (D	95)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inches):						
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):						
Saturation Present? Yes	No X Depth (inches):		drology Present?	Yes No X			
(includes capillary fringe)							
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre	vious inspections), if availa	able:				
Remarks:							
Wetland hydrology is neither present nor ind	icated.						

VEGETATION – Use scientific names of plants. Sampling Point: DP34 Absolute Dominant Indicator Tree Stratum (Plot size: 30 ft) % Cover Status **Dominance Test worksheet:** Species? 1. **Number of Dominant Species** 2. 0 That Are OBL, FACW, or FAC: (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 1 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 0.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15 ft OBL species x 1 = **FACW** species 0 x 2 = 0 0 2. FAC species x 3 = 0 x 4 = 3. FACU species 95 380 4. UPL species 0 x 5 = 5. Column Totals: 100 Prevalence Index = B/A = 3.85 6. **Hydrophytic Vegetation Indicators:** 7. 1 - Rapid Test for Hydrophytic Vegetation =Total Cover Herb Stratum (Plot size: 5 ft) 2 - Dominance Test is >50% 1. Poa pratensis 55 Yes **FACU** 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations¹ (Provide supporting 2. 10 **FACU** Cirsium arvense No data in Remarks or on a separate sheet) 3. Potentilla simplex 10 No **FACU** 4. Fragaria virginiana 10 No **FACU** Problematic Hydrophytic Vegetation¹ (Explain) 5 5. Carex pellita No OBL ¹Indicators of hydric soil and wetland hydrology must 5 No 6. Solidago canadensis **FACU** be present, unless disturbed or problematic. 5 7. Achillea millefolium No **FACU Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in 9. diameter at breast height (DBH), regardless of height. 10. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 100 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic 3. Vegetation Present? Yes =Total Cover Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation is not present. About 25 ft separates this sampling point from its paired wetland sampling point (DP33) with 2 ft change in elevation

Profile Desc Depth	ription: (Describe t Matrix	to the de	pth needed to document the indicator or on the Redox Features			ator or co	onfirm the absence of	nce of indicators.)			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	ks	
0-16	10YR 3/1	100	,				Loamy/Clayey				
16-19	10YR 5/3	100					Sandy				
10-13	10111 3/3	100					Carray				
										_	
											
							·				
	ncentration, D=Depl	etion, RN	/I=Reduced Matrix, N	иS=Mas	ked San	d Grains.	² Location: P				
Hydric Soil I			Dork Curtoss /	(07)			Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B)				
Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (I				I DD D				RR K, L, R)			
Black Histic (A3) MLRA 149B)				LIXIX IX,				(LRR K, L, R)			
Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA				, MLRA 1		-		(LRR K, L)			
Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L)						(S9) (LRR					
Depleted	Below Dark Surface	e (A11)	Loamy Mucky	Mineral	(F1) (LR I	R K, L)	Iron-Man	nganese M	lasses (F12) (LRR K, L, R)	
Thick Da	rk Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
	oodic (A17)		Depleted Matri				Red Parent Material (F21) (outside MLRA 145)				
	A 144A, 145, 149B)		Redox Dark Si	-	-		Very Shallow Dark Surface (F22) Other (Explain in Remarks)				
	ucky Mineral (S1)		Depleted Dark				Other (E	xplain in F	Remarks)		
	leyed Matrix (S4) edox (S5)		Redox Depres Marl (F10) (LR		8)		³ Indicato	re of bydr	ophytic vege	atation and	
	Matrix (S6)		Red Parent Ma		21) (MI F	RΔ 145)		-	gy must be		
	Wattix (OO)			atoriai (i	2 1) (IIII EI	U-1 1-0)			or problem		
Restrictive L	ayer (if observed):								<u> </u>		
Type:											
Depth (in	iches):						Hydric Soil Preser	nt?	Yes	No X	
Remarks:											
Soil is very di	ry. Hydric soils are n	ot preser	nt. Does not meet hy	dric soils	s criteria.						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNAT	ΓΙΟΝΑL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/7/22			
Applicant/Owner: St. Clair County			State: I	MI Sampling Point: DP35			
Investigator(s): Brauna Hartzell, Mead & Hunt	t, Inc.	Section, Tov	wnship, Range: Sec				
Landform (hillside, terrace, etc.): Depression		elief (concave, conve		Slope %: <1%			
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.539487	Datum: WGS84			
Soil Map Unit Name: Allendale-Lenawee-Toled							
Are climatic / hydrologic conditions on the site		Yes	<u> </u>	f no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrol			nal Circumstances" p				
Are Vegetation, Soil, or Hydrol	ogynaturally problemati	ic? (If needed	d, explain any answe	ers in Remarks.)			
SUMMARY OF FINDINGS – Attach	site map showing samp	pling point locat	ions, transects	, important features, etc.			
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	rea				
Hydric Soil Present?	Yes X No	within a Wetland?	Yes_	X No			
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 21	<u> </u>			
Remarks: (Explain alternative procedures he An analysis of antecedent precipitation indica		ans were drier than n	armal rango. Data n	sist taken in wooded depressional			
An analysis of antecedent precipitation indica area.	tes that environmental conditio	ons were uner man n	ormai range. Data p	oint taken in wooded depressional			
4.04.							
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicato	ors (minimum of two required)			
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Ci	racks (B6)			
Surface Water (A1)	Water-Stained Leaves (B9	9)	Drainage Patte				
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)				
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrov				
Sediment Deposits (B2)	Oxidized Rhizospheres or			ble on Aerial Imagery (C9)			
Drift Deposits (B3)	Presence of Reduced Iron			essed Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	X Geomorphic Po				
Iron Deposits (B5)	Thin Muck Surface (C7)	`	Shallow Aquita				
Inundation Visible on Aerial Imagery (B7)		.s)	Microtopograph				
Sparsely Vegetated Concave Surface (Ba	3)		X FAC-Neutral To	est (D5)			
Field Observations:	N- V Donth (inches):						
Surface Water Present? Yes	No X Depth (inches):						
Water Table Present? Yes	No X Depth (inches):		- I ludual agu Draga				
Saturation Present? Yes	No X Depth (inches):	vvetian	d Hydrology Prese	nt? Yes X No			
(includes capillary fringe) Describe Recorded Data (stream gauge, mor	sitoring well aerial photos prev	vious inspections) if	available.				
Describe Necolued Data (Stream gauge, mor	moning wen, acriai priotos, prov	nous mapeodona,, n	avaliable.				
Remarks:							
Wetland hydrology is indicated. No water-stai	ned leaves noted.						

/EGETATION – Use scientific names of pla	Sampling Point:	DP35					
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
Populus deltoides	40	Yes	FAC	Number of Dominant Species			
2. Fraxinus pennsylvanica	20	Yes	FACW	That Are OBL, FACW, or FAC:	6 (A)		
3. Quercus bicolor	10	No	FACW	Total Number of Dominant			
4.				Species Across All Strata:	6 (B)		
5				Percent of Dominant Species			
6.				•	00.0% (A/B)		
7				Prevalence Index worksheet:			
	70	=Total Cover		Total % Cover of: Mu	ıltiply by:		
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species0 x 1 =	0		
1. Fraxinus pennsylvanica	20	Yes	FACW	FACW species 85 x 2 =	170		
2.				FAC species 60 x 3 =	180		
3.				FACU species 0 x 4 =	0		
4.				UPL species 0 x 5 =	0		
5.	-			Column Totals: 145 (A)	350 (B)		
6.				Prevalence Index = B/A =	2.41		
7.				Hydrophytic Vegetation Indicators:			
	20	=Total Cover		1 - Rapid Test for Hydrophytic Ve	getation		
Herb Stratum (Plot size: 5 ft)		•		X 2 - Dominance Test is >50%			
1. Carex intumescens	20	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹			
2. Symphyotrichum lateriflorum	20	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting			
3. Phragmites australis	15	Yes	FACW	data in Remarks or on a separa	ate sheet)		
4.				Problematic Hydrophytic Vegetation	on ¹ (Explain)		
5 6				¹ Indicators of hydric soil and wetland he present, unless disturbed or proble			
7				Definitions of Vegetation Strata:			
8.				Tree – Woody plants 3 in. (7.6 cm) or	more in		
9				diameter at breast height (DBH), regar			
10				Sapling/shrub – Woody plants less th	nan 3 in DBH		
11				and greater than or equal to 3.28 ft (1			
12		-Total Cayor		Herb – All herbaceous (non-woody) pl			
Moody Vine Stratum (Diet size) 15 ft	55	=Total Cover		of size, and woody plants less than 3.2	20 It tall.		
Woody Vine Stratum (Plot size: 15 ft) 1.		. <u> </u>		Woody vines – All woody vines greate height.	er than 3.28 ft in		
2							
3				Hydrophytic Vegetation			
4				Present? Yes X No			
		=Total Cover					
Remarks: (Include photo numbers here or on a sena	rate sheet \			•			

Hydrophytic vegetation is present. Central core is mostly covered by Phragmites under open canopy. Leaf detritus, dry conditions, and shade contribute to sparse herb stratum.

Depth	ription: (Describe to Matrix	the de		ument t l x Featur		ator or co	onfirm the absence o	f indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	10YR 3/1	100					Loamy/Clayey	
6-12	10YR 4/1	98	7.5YR 4/6	2	<u>C</u>	<u>M</u>	Loamy/Clayey	Prominent redox concentrations
¹Type: C=Co	oncentration, D=Deple	tion. RN		MS=Mas	ked San		² Location: P	L=Pore Lining, M=Matrix.
Hydric Soil I Histosol Histic Ep Black His Hydroge Stratified X Depleted Thick Da Mesic Sp (MLR Sandy M Sandy G Sandy R Stripped	ndicators: (A1) ipedon (A2) stic (A3) n Sulfide (A4) I Layers (A5) I Below Dark Surface rk Surface (A12) podic (A17) A 144A, 145, 149B) lucky Mineral (S1) leyed Matrix (S4) edox (S5) Matrix (S6) Layer (if observed):	(A11)	Dark Surface (Polyvalue Belo MLRA 149E Thin Dark Surf High Chroma S Loamy Mucky Loamy Gleyed X Depleted Matr Redox Dark S Depleted Dark Redox Depres Marl (F10) (LR Red Parent Matr	(S7) bow Surfa B) face (S9 Sands (S Mineral I Matrix (ix (F3) urface (F Surface sions (F RR K, L)	ce (S8) () (LRR R S11) (LRI (F1) (LRI F2) 66) (F7) 8)	LRR R, , MLRA 1 R K, L) R K, L)	Indicators f 2 cm Mu Coast P 5 cm Mu Thin Dai Iron-Mai Piedmor Red Par Very Sh Other (E	or Problematic Hydric Soils ³ : ack (A10) (LRR K, L, MLRA 149B) rairie Redox (A16) (LRR K, L, R) acky Peat or Peat (S3) (LRR K, L, R) be Below Surface (S8) (LRR K, L) rk Surface (S9) (LRR K, L) rganese Masses (F12) (LRR K, L, R) at Floodplain Soils (F19) (MLRA 149B) rent Material (F21) (outside MLRA 145) allow Dark Surface (F22) explain in Remarks) ors of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.
Type: _ Depth (in	dry, compact	ed layer 12					Hydric Soil Prese	nt? Yes <u>X</u> No
Remarks: Soil is very di	ry. Hydric soils are pre	esent. F	dydric soil indicators	Deplete	d Below	Dark Suri	ace (A11) and Deplet	ed Matrix (F3) are satisfied.



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/7/22		
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP36		
Investigator(s): Brauna Hartzell, Mead & Hun	nt, Inc.	Section, Tow	vnship, Range: Section 3	3, T5N, R16E		
Landform (hillside, terrace, etc.): Footslope	Local r	relief (concave, conve		Slope %: 2%		
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.539589	 Datum: WGS84		
Soil Map Unit Name: Allendale-Lenawee-Toled				N/A		
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)		
Are Vegetation, Soil, or Hydro			ial Circumstances" prese			
Are Vegetation , Soil , or Hydro			, explain any answers in			
<u> </u>						
SUMMARY OF FINDINGS – Attach	site map snowing sam	pling point locat	ions, transects, ım	portant features, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea			
Hydric Soil Present?	Yes No X	within a Wetland?		No X		
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:			
Remarks: (Explain alternative procedures he						
An analysis of antecedent precipitation indica	ates that environmental condition	ons were drier than no	ormal range. Data point t	aken in wooded area.		
LIVEROLOGY						
HYDROLOGY						
Wetland Hydrology Indicators:			-	ninimum of two required)		
Primary Indicators (minimum of one is require			Surface Soil Cracks	, ,		
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (•		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)				
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (0					
Sediment Deposits (B2)	Oxidized Rhizospheres o	s on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)	Presence of Reduced Iro	on (C4)	Stunted or Stressed	Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in		Geomorphic Positio	n (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	/3)		
Inundation Visible on Aerial Imagery (B7	') Other (Explain in Remark	ks)	Microtopographic R	elief (D4)		
Sparsely Vegetated Concave Surface (B	J8)		X FAC-Neutral Test (05)		
Field Observations:						
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes No _X		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, pre	evious inspections), if a	available:			
Remarks:						
Remarks: Wetland hydrology is neither present nor indi	icated.					
, and an	outou.					

/EGETATION – Use scientific names of pla	nts.			Sampling Point:	DP36		
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. Populus deltoides	60	Yes	FAC	Number of Dominant Species			
2. Pinus strobus	10	No	FACU	That Are OBL, FACW, or FAC:	4 (A)		
3. Pinus resinosa	10	No	FACU	Total Number of Dominant			
4.		· ·		Species Across All Strata:	4 (B)		
5.		· ·		Percent of Dominant Species			
6.				· '	100.0% (A/B)		
7				Prevalence Index worksheet:			
	80	=Total Cover		Total % Cover of: Mu	ultiply by:		
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 =	0		
1. Cornus racemosa	60	Yes	FAC	FACW species 60 x 2 =	120		
2.				FAC species 120 x 3 =	360		
3.				FACU species 20 x 4 =	80		
4.		· ·		UPL species 0 x 5 =	0		
5.				Column Totals: 200 (A)	560 (B)		
6.				Prevalence Index = B/A =	2.80		
7.	1	<u> </u>		Hydrophytic Vegetation Indicators:			
	60	=Total Cover		1 - Rapid Test for Hydrophytic Ve			
Herb Stratum (Plot size: 5 ft)	-	-		X 2 - Dominance Test is >50%			
1. Carex intumescens	40	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹			
2. Solidago gigantea	20	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting			
3.		· ——		data in Remarks or on a separa			
4.				Problematic Hydrophytic Vegetati	on ¹ (Explain)		
5 6.				¹ Indicators of hydric soil and wetland l be present, unless disturbed or proble			
7.				Definitions of Vegetation Strata:			
8				Tree – Woody plants 3 in. (7.6 cm) or	more in		
9				diameter at breast height (DBH), rega			
10.				Sapling/shrub – Woody plants less the	han 3 in DRH		
11.				and greater than or equal to 3.28 ft (1			
12.		<u> </u>		Herb – All herbaceous (non-woody) p	lante rogardiose		
_	60	=Total Cover		of size, and woody plants less than 3.			
Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines great	ter than 3.28 ft in		
1				height.			
2				Hydrophytic			
3				Vegetation			
4				Present? Yes X No			
		=Total Cover					
Remarks: (Include photo numbers here or on a separ	rate sheet.)			•			

Hydrophytic vegetation is present. About 20 ft separates this sampling point from its paired wetland sampling point (DP35) with 6in change in elevation

Profile Descripe	ription: (Describe t Matrix	to the de		ument the x Feature		ator or co	onfirm the absence of in	dicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	arks
0-6	10YR 3/1	100	(1 1 1)		<u></u>		Loamy/Clayey		
6-12	10YR 4/1	100					Loamy/Clayey		
0-12	10114/1	100					Loanly/Clayey		
			-						
					<u> </u>				_
									_
									_
									_
									_
	ncentration, D=Depl	etion, RN	/I=Reduced Matrix, N	∕IS=Mas	ked San	d Grains.		Pore Lining, M=M	
Hydric Soil I			D 10 ()	(07)				Problematic Hyd	
Histosol (Dark Surface (oo (CO) (L DD D		(A10) (LRR K, L,	
	Histic Epipedon (A2) Black Histic (A3) Polyvalue Below Surface (S8) (LRR I				LKK K,		e Redox (A16) (L Peat or Peat (S3		
	n Sulfide (A4)		Thin Dark Surf	,	(LRR R	. MLRA 1		elow Surface (S8	
	Layers (A5)		High Chroma S					urface (S9) (LRF	
	Below Dark Surface	e (A11)	Loamy Mucky						2) (LRR K, L, R)
	rk Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmont F	oodplain Soils (F	19) (MLRA 149B)
Mesic Sp	odic (A17)		Depleted Matri	x (F3)			Red Parent	Material (F21) (o	utside MLRA 145)
(MLRA	A 144A, 145, 149B)		Redox Dark St					w Dark Surface (F22)
	ucky Mineral (S1)		Depleted Dark				Other (Expl	ain in Remarks)	
	leyed Matrix (S4)		Redox Depres		8)		31	. 	
	edox (S5)		Marl (F10) (LR		24) /MI E	DA 44E\		of hydrophytic veg	
Suipped	Matrix (S6)		Red Parent Ma	iteriai (i	21) (WILI	XA 143)		ydrology must be sturbed or proble	
Restrictive L	.ayer (if observed):						unioco un	narboa or problem	nauo.
Type:	Compa	cted							
Depth (in	ches):	12					Hydric Soil Present?	Yes	No X
Remarks:									
Soil is very dr	ry. Hydric soils are n	ot preser	nt. Does not meet hy	dric soils	s criteria.				



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	ATIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 6/8/23			
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP37			
Investigator(s): Brauna Hartzell & Kim Shani	non, Mead & Hunt, Inc.	Section, Tov	vnship, Range: Section:				
Landform (hillside, terrace, etc.): Depression	on Local re	elief (concave, conve	x, none): Concave	Slope %: <1%			
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.537153	Datum: WGS84			
Soil Map Unit Name: Allendale-Lenawee-Tole							
· · · · · · · · · · · · · · · · · · ·							
Are climatic / hydrologic conditions on the site		Yes X		explain in Remarks.)			
Are Vegetation, Soil, or Hydro			nal Circumstances" prese				
Are Vegetation, Soil, or Hydro	ologynaturally problemate	tic? (If needed	, explain any answers ir	n Remarks.)			
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	ions, transects, in	nportant features, etc.			
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea				
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No			
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 20				
Remarks: (Explain alternative procedures h An analysis of antecedent precipitation indic basin.	,	ons were within norm	al range. Data point take	en on edge of depressional			
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators (r	minimum of two required)			
Primary Indicators (minimum of one is require	red; check all that apply)		Surface Soil Crack	s (B6)			
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)					
X Saturation (A3)	Marl Deposits (B15)	X Dry-Season Water Table (C2)					
X Water Marks (B1)	Hydrogen Sulfide Odor (C						
Sediment Deposits (B2)	Oxidized Rhizospheres o	• , ,		on Aerial Imagery (C9)			
Drift Deposits (B3) Algal Mat or Crust (B4)	Presence of Reduced Iron Recent Iron Reduction in		X Geomorphic Position	` '			
Iron Deposits (B5)	Thin Muck Surface (C7)	Theu Sons (So)	Shallow Aquitard (I				
Inundation Visible on Aerial Imagery (B7		(s)	Microtopographic F	•			
Sparsely Vegetated Concave Surface (E	· —	,	X FAC-Neutral Test (
Field Observations:				,			
Surface Water Present? Yes	No X Depth (inches):						
Water Table Present? Yes X	No Depth (inches):	16					
Saturation Present? Yes X	No Depth (inches):	6 Wetland	d Hydrology Present?	Yes X No			
(includes capillary fringe)							
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos, pre-	vious inspections), if	available:				
Remarks: Wetland hydrology is present and indicated. stained leaves throughout depressional area wetland. Sparsely Vegetated Concave Surfa	a. No herbaceous vegetation in	lowest part of depres					

/EGETATION – Use scientific names of pla	Sampling Point:	DP37				
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. Acer saccharinum	40	Yes	FACW	Number of Dominant Species		
2. Populus deltoides	20	Yes	FAC	That Are OBL, FACW, or FAC:	5 (A)	
3. Quercus bicolor	20	Yes	FACW	Total Number of Dominant		
4. Ulmus americana	15	No	FACW	Species Across All Strata:	5 (B)	
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 1	100.0% (A/B)	
7.		· 		Prevalence Index worksheet:	(A/B)	
··	95	=Total Cover			ultiply by:	
Sapling/Shrub Stratum (Plot size: 15 ft)		Total Gover		OBL species 0 x 1 =	0	
Fraxinus pennsylvanica	5	Yes	FACW	FACW species 85 x 2 =	170	
2.				FAC species 20 x 3 =	60	
3.				FACU species $0 \times 4 =$	0	
4.				UPL species 0 x 5 =	0	
5.		· ——		Column Totals: 105 (A)	230 (B)	
6.				Prevalence Index = B/A =	2.19	
7.				Hydrophytic Vegetation Indicators:		
··	5	=Total Cover		1 - Rapid Test for Hydrophytic Ve		
Herb Stratum (Plot size: 5 ft)		- Total Covol		X 2 - Dominance Test is >50%	gotation	
Onoclea sensibilis	5	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹		
2.				4 - Morphological Adaptations ¹ (P		
3 4		·		Problematic Hydrophytic Vegetati	ŕ	
5 6.				 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 		
7.				Definitions of Vegetation Strata:		
8. 9.				Tree – Woody plants 3 in. (7.6 cm) or diameter at breast height (DBH), rega		
10 11.				Sapling/shrub – Woody plants less the and greater than or equal to 3.28 ft (1		
12.	5	=Total Cover		Herb – All herbaceous (non-woody) p of size, and woody plants less than 3.		
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woody vines great height.		
2				Hydrophytic Vegetation		
4				Present? Yes X No		
		=Total Cover				
Domarka: (Include photo numbers here or an a sens	rata abact \					

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

Hydrophytic vegetation is present. Herb stratum limited due to leaf detritus and shade. About 20 ft separates this sampling point from its paired wetland sampling point (DP38) with 1 ft change in elevation

Profile Desc Depth	ription: (Describe t Matrix	to the de		ument th x Featur		ator or co	onfirm the absence of i	ndicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Ren	narks
0-12	10YR 3/1	100	, , ,				Loamy/Clayey		
12-18	10YR 5/1	100					Loamy/Clayey		
12-10	10110 3/1	100					Loamy/Clayey		
		·			<u> </u>				
		etion, RN	M=Reduced Matrix, N	√IS=Mas	ked San	d Grains.		Pore Lining, M=I	
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7)							Problematic Hy		
	Histosol (A1) Histic Epipedon (A2) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR				I DD D		: (A10) (LRR K, I rie Redox (A16) (
Black His			MLRA 149B		Ce (30) (LKK K,			S3) (LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surf	,	(LRR R	. MLRA 1		Below Surface (S	
	Layers (A5)		High Chroma S					Surface (S9) (LR	
	Below Dark Surface	(A11)	Loamy Mucky						12) (LRR K, L, R)
Thick Da	rk Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmont F	-loodplain Soils ((F19) (MLRA 149B)
Mesic Sp	odic (A17)		Depleted Matri						(outside MLRA 145)
	A 144A, 145, 149B)		Redox Dark St					ow Dark Surface	
	ucky Mineral (S1)		Depleted Dark		, ,		Other (Exp	lain in Remarks)	
	leyed Matrix (S4)		Redox Depres	•	8)		3 Indicators	of hydrophytic ve	agatatian and
	edox (S5) Matrix (S6)		Marl (F10) (LR Red Parent Ma		21) (MI E	PA 145)		hydrology must b	
Suipped	Watrix (50)		Red raient wa	ateriai (i	21) (IVILI	(A 143)		isturbed or proble	
Restrictive L	.ayer (if observed):								
Type:	• , ,								
Depth (in	ches):						Hydric Soil Present?	Yes	X No
Remarks:									
Hydric soils a	re present. Hydric s	oils indic	ator Depleted Below	≀ Dark Su	urface (A	.11) is sat	isfied.		



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNAT	IONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 6/8/23		
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP38		
Investigator(s): Brauna Hartzell & Kim Shanno	on, Mead & Hunt, Inc.	Section, Tow	vnship, Range: Section 2			
Landform (hillside, terrace, etc.): Terrace		elief (concave, convex		Slope %: <1%		
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.537238299	Datum: WGS84		
Soil Map Unit Name: Allendale-Lenawee-Toledo				N/A		
Are climatic / hydrologic conditions on the site t		Yes X		explain in Remarks.)		
, ,			al Circumstances" prese			
Are Vegetation , Soil , or Hydrold						
Are Vegetation, Soil, or Hydrold	<u> </u>		, explain any answers in			
SUMMARY OF FINDINGS – Attach s	site map showing samp	pling point locati	ions, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Are	<u></u> ea			
	Yes No X	within a Wetland?		No X		
	Yes No X	If yes, optional Wetl	land Site ID:			
Remarks: (Explain alternative procedures her	re or in a separate report.)					
An analysis of antecedent precipitation indicate	tes that environmental condition	ons were within norma	al range.			
HYDROLOGY						
Wetland Hydrology Indicators:				ninimum of two required)		
Primary Indicators (minimum of one is require		 .	Surface Soil Cracks	` '		
Surface Water (A1)	Water-Stained Leaves (B	.9)	Drainage Patterns (•		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16) Dny-Season Water Table (C2)				
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C					
Sediment Deposits (B2)	Oxidized Rhizospheres of					
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stressed			
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (Cb)	Geomorphic Positio			
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D			
Inundation Visible on Aerial Imagery (B7)		(s)	Microtopographic R			
Sparsely Vegetated Concave Surface (B8	3)	 -	FAC-Neutral Test ([)5)		
Field Observations:	5					
Surface Water Present? Yes	No X Depth (inches): No X Depth (inches):					
Water Table Present? Yes	No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes No _X_		
(includes capillary fringe)	" transcript april photon pro	· · · · · · · · · · · · · · · · · · ·	9-61-			
Describe Recorded Data (stream gauge, mon	itoring well, aerial priotos, prev	vious inspections), ii a	avallable:			
Remarks:						
Wetland hydrology is neither present nor indic	cated. About 20 ft separates th	nis sampling point fron	n its paired wetland sam	pling point (DP37) with 1 ft		
change in elevation.		, ,	•	,		

	'EGETATION – Use scientific names of pla	San	npling Point:	DP38	3				
2. Acer rubrum 2.0 Yes FACU 3. Betula papyrifera 1.0 Yes FACU 4. Species papyrifera 1.0 Yes FACU 4. Species Across All Strata: 5. Sapling/Shrub Stratum (Plot size: 15 ft) 1. Fraxinus pennsylvanica 2. Prunus serotina 3. Carpinus caroliniana 1.0 Yes FACU 5. No FACU 4. Bertheris thumbergii 5. No FACU 4. Bertheris thumbergii 5. No FACU 4. Bertheris thumbergii 6. Serotial Cover FAC FACW pecies Robert R	Tree Stratum (Plot size: 30 ft)				Dominance Test works	sheet:			
2. Aer rubnum	1. Quercus rubra	20	Yes	FACU	Number of Dominant Sp	ecies			
Species Across AII Strats: 9 (8) Factor Fa	2. Acer rubrum	20	Yes	FAC	•		5	(A)	
Species Across All Strata: 9 (8)	3. Betula papyrifera	10	Yes	FACU	Total Number of Domina	ant			
Fercent of Dominant Species Ferc	4.						9	(B)	
That Are OBL, FACW, or FAC: 55.8% (A) Prevalence Index worksheet: Total % Cover of: Multiply by: Total % Cover of: Multiply	5				Percent of Dominant Sp	ecies			
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Fraxinus pennsylvanica 20	6.				·		55.6%	(A/B)	
Sapling/Shrub Stratum (Plot size: 15 ft 1. Fraxinus pennsylvanica 20	7.				Prevalence Index worksheet:				
1. Fraxinus pennsylvanica 2. Prunus serotina 1. 10 Yes FACU 2. Prunus serotina 1. 10 Yes FACU 3. Carpinus caroliniana 1. 10 Yes FACU 4. Berberis thunbergii 5. No FACU 5. Column Totals: 170 (A) 530 (Column Totals: 170 (A) 530		50	=Total Cover		Total % Cover of:	N	lultiply by:		
2.	Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0	x 1 =	0		
3. Carpinus caroliniana 4. Berberis thunbergii 5 No FACU 4. December 170 (A) 530 (Prevalence Index = B/A = 3.12 4. Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% X 3 - Prevalence Index = B/A = 3.12 H-dyrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation for Hydrophytic Vegetation for Provide support data in Remarks or on a separate sheet) X - Problematic Hydrophytic Vegetation f(Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree - 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, regardle of size, and woody plants less than 3.28 ft height. Woody Vine Stratum (Plot size: 15 ft) 1. Woody Vines - All woody vines greater than 3.28 ft height. Hydrophytic Vegetation Present? Yes X No	1. Fraxinus pennsylvanica	20	Yes	FACW	FACW species 60	x 2 =	120		
Berberis thunbergii 5	2. Prunus serotina	10	Yes	FACU	FAC species 30	x 3 =	90		
Column Totals: 170 (A) 530 (3. Carpinus caroliniana	10	Yes	FAC	FACU species 80	x 4 =	320		
Prevalence Index = B/A = 3.12	4. Berberis thunbergii	5	No	FACU	UPL species 0	x 5 =	0		
Prevalence Index = B/A = 3.12	5.				Column Totals: 170	(A)	530	(B)	
Herb Stratum (Plot size:5 ft) 20	6.				Prevalence Index	= B/A =	3.12		
Herb Stratum (Plot size: 5 ft) 20	7.				Hydrophytic Vegetation	n Indicators	:		
1. Onoclea sensibilis 20 Yes FACW 2 Solidago gigantea 20 Yes FACW 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide suppor data in Remarks or on a separate sheet) 4 - Morphological Adaptations¹ (Provide suppor data in Remarks or on a separate sheet) 4 - Dichanthelium latifolium 10 No FACU 5 - Actaea rubra 10 No FACU 7 - Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 7 - Definitions of Vegetation Strata: 8 - Definitions of Vegetation Strata: 10 Sapling/shrub — Woody plants 1 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height and greater than or equal to 3.28 ft (1 m) tall. 11 - Total Cover 15 ft		45	=Total Cover		1 - Rapid Test for H	ydrophytic V	egetation		
2 Solidago gigantea 20 Yes FACW 3. Circaea canadensis 4. Dichanthelium latifolium 5. Actaea rubra 6. Circaea canadensis 7. Seleccetary and the street of the	Herb Stratum (Plot size: 5 ft)		•		X 2 - Dominance Test	is >50%			
3. Circaea canadensis 4. Dichanthelium latifolium 5. Actaea rubra 10 No FACU 11 No FACU 12 Problematic Hydrophytic Vegetation (Explain) 13 No FACU 14 Problematic Hydrophytic Vegetation (Explain) 15 Actaea rubra 16 Problematic Hydrophytic Vegetation (Explain) 16 Problematic Hydrophytic Vegetation (Explain) 18 Problematic Hydrophytic Vegetation (Explain) 19 Problematic Hydrophytic Vegetation (Explain) 10 Problematic Hydrophytic Vegetation (Explain) 11 Problematic Hydrophytic Vegetation (Explain) 12 Problematic Hydrophytic Vegetation (Explain) 13 Problematic Hydrophytic Vegetation (Explain) 14 Problematic Hydrophytic Vegetation (Explain) 15 Problematic Hydrophytic Vegetation (Explain) 16 Problematic Hydrophytic Vegetation (Explain) 16 Problematic Hydrophytic Vegetation (Explain) 17 Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of h	1. Onoclea sensibilis	20	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹				
4. Dichanthelium latifolium 10 No FACU 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 7. Definitions of Vegetation Strata: 8. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height and greater than or equal to 3.28 ft (1 m) tall. 12. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height and greater than or equal to 3.28 ft (1 m) tall. Woody Vine Stratum (Plot size: 15 ft) 1. Woody Vines – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation Present? Yes X No	2. Solidago gigantea	20	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting				
5. Actaea rubra 10 No FACU 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 7. 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, regardles of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) 1. Woody vines – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation Present? Yes X No	3. Circaea canadensis	15	Yes	FACU					
5. Actaea rubra 10 No FACU 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 7. 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, regardles of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) 1. Woody vines – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation Present? Yes X No	4. Dichanthelium latifolium	10	No	FACU	Problematic Hydrop	hytic Vegeta	tion ¹ (Expla	ain)	
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 (DBH), regardless	5. Actaea rubra	10	No	FACU					
Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height not be supported by the stratum of t	6.							must	
8. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height not be specified by the stratum of size. Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height not be specified by the size of height not be specified by the size of size, and greater than or equal to 3.28 ft (1 m) tall. Woody Vine Stratum (Plot size: 15 ft) 1. Woody vines – All woody vines greater than 3.28 ft height. Woody vines – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation Present? Yes X No	7.				·	•			
diameter at breast height (DBH), regardless of height (DBH	8.								
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, regardle of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) 1.	9.				, ,	,		neight.	
11	10.							_	
12								JBH	
Woody Vine Stratum (Plot size: 15 ft) 1.						,	,		
Woody Vine Stratum (Plot size: 15 ft) 1.		75	=Total Cover					ardless	
1	Woody Vine Stratum (Plot size: 15 ft)		•						
2						dy vines grea	iter than 3.2	28 ft in	
3. Hydrophytic Vegetation Present? Yes X No	2				g				
4									
						X Nr)		
=Total Cover			=Total Cover						
Remarks: (Include photo numbers here or on a separate sheet.)	Daniela (Inches abeta a								

Hydrophytic vegetation is present.

Depth	ription: (Describe t Matrix	o tne de	•	ument tr x Featur		ator or co	onfirm the absence of	f indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remark	s
0-14	10YR 3/1	100					Loamy/Clayey		
14-20	10YR 5/3	100					Loamy/Clayey		
20-24	10YR 5/2	90	10YR 5/6	10	С	М	Loamy/Clayey	Prominent redox co	oncentrations
									
									
	oncentration, D=Deple	etion, RM	/I=Reduced Matrix, N	/IS=Mas	ked San	d Grains.		L=Pore Lining, M=Mat	
Hydric Soil Indicators: Histosol (A1) Dark Surface (S7)								or Problematic Hydric ck (A10) (LRR K, L, M	
	pipedon (A2)							rairie Redox (A16) (LR I	
Black His			MLRA 149B		() (,		cky Peat or Peat (S3)	
Hydroge	n Sulfide (A4)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1	Polyvalue	e Below Surface (S8) ((LRR K, L)
Stratified	l Layers (A5)		High Chroma S	Sands (S	611) (LR I	R K, L)	Thin Dar	k Surface (S9) (LRR K	(, L)
	d Below Dark Surface	(A11)	Loamy Mucky			RK, L)		nganese Masses (F12)	
	ark Surface (A12)		Loamy Gleyed		F2)			nt Floodplain Soils (F19	
	podic (A17)		Depleted Matri		-0)			ent Material (F21) (out	
	A 144A, 145, 149B) lucky Mineral (S1)		Redox Dark Su Depleted Dark					allow Dark Surface (F2 xplain in Remarks)	2)
	sleyed Matrix (S4)		Redox Depres				Other (L)	Apiaiii iii Neiliaiks)	
	ledox (S5)		Marl (F10) (LR		0)		³ Indicator	rs of hydrophytic vege	tation and
	Matrix (S6)		Red Parent Ma		21) (MLI	RA 145)		d hydrology must be p	
	, ,			<u> </u>				disturbed or problema	
Restrictive I	Layer (if observed):								
Type:									
Depth (ir	nches):						Hydric Soil Presen	nt? Yes	No X
Remarks:									
Hydric soils a	are not present. Does	not mee	et hydric soils criteria						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNATION	ONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 6/12/23						
Applicant/Owner: St. Clair County	-	State: MI	Sampling Point: DP39							
Investigator(s): Brauna Hartzell & Kim Shannor	n, Mead & Hunt, Inc.	Section, Tov	vnship, Range: Section 3	, T5N, R16E						
Landform (hillside, terrace, etc.): Depression	Local re	elief (concave, conve		Slope %: <1%						
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.544925	Datum: WGS84						
Soil Map Unit Name: Allendale-Latty complex,			NWI classification:	N/A						
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No										
Are Vegetation, Soil, or Hydrologynaturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.										
	The map snowing same			——————————————————————————————————————						
Hydrophytic Vegetation Present? Yes X No Is the Sampled Area										
,	res X No	within a Wetland?		No						
Wetland Hydrology Present? Ye	/es X No	If yes, optional Wet	tland Site ID: 30A							
Remarks: (Explain alternative procedures here or in a separate report.) An analysis of antecedent precipitation indicates that environmental conditions were within normal range. Data point taken in hardwood covered depression with water-stained leaves.										
HYDROLOGY										
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)						
Primary Indicators (minimum of one is required	i; check all that apply)		Surface Soil Cracks (B6)							
Surface Water (A1)	X Water-Stained Leaves (B	9)	Drainage Patterns (B10)							
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	16)						
X Saturation (A3)	Marl Deposits (B15)		Table (C2)							
Water Marks (B1)	Hydrogen Sulfide Odor (C	(C1) Crayfish Burrows (C8)								
Sediment Deposits (B2)	Oxidized Rhizospheres or	on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)								
Drift Deposits (B3)	Presence of Reduced Iron	ron (C4) Stunted or Stressed Plants (D1)								
Algal Mat or Crust (B4)	Recent Iron Reduction in	n Tilled Soils (C6) X Geomorphic Position (D2)								
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)								
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks	s) Microtopographic Relief (D4)								
Sparsely Vegetated Concave Surface (B8))		X FAC-Neutral Test (D)5)						
Field Observations:										
	No X Depth (inches):									
	No Depth (inches):	13								
Saturation Present? Yes X	No Depth (inches):	10 Wetland	d Hydrology Present?	Yes X No						
(includes capillary fringe)										
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, prev	vious inspections), if	available:							
Remarks: Wetland hydrology is present and indicated. AF stained leaves throughout depressional area.	PT 2.0 indicates normal dry se	eason. No precipitatio	on recorded in few days p	orior to site visit. Water-						

/EGETATION – Use scientific names of pla	Sampli	DP39						
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test workshe	et:			
1. Acer rubrum	80	Yes	FAC	Number of Dominant Speci	es			
2. Quercus bicolor	15	No	FACW	That Are OBL, FACW, or F		4	(A)	
3. Quercus rubra	5	No	FACU	Total Number of Dominant				
4	-			Species Across All Strata:		4	(B)	
5				Percent of Dominant Speci	es			
6.	-			That Are OBL, FACW, or F		00.0%	(A/B)	
7				Prevalence Index worksheet:				
	100	=Total Cover		Total % Cover of: Multiply by:				
Sapling/Shrub Stratum (Plot size:15 ft)				OBL species 15	x 1 =	15		
1. Acer rubrum	20	Yes	FAC	FACW species 17	x 2 =	34		
2. Quercus rubra	5	No	FACU	FAC species 115	x 3 =	345		
3. Fraxinus pennsylvanica	2	No	FACW	FACU species10	x 4 =	40		
4.				UPL species 0	x 5 =	0		
5.				Column Totals: 157	(A)	434	(B)	
6.				Prevalence Index =	B/A =	2.76		
7.				Hydrophytic Vegetation Indicators:				
	27	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation				
Herb Stratum (Plot size: 5 ft)		_		X 2 - Dominance Test is >50%				
1. Populus deltoides	15	Yes	FAC	X 3 - Prevalence Index is	≤3.0 ¹			
2. Iris virginica	10	Yes	OBL	4 - Morphological Adaptations ¹ (Provide supporting				
3. Juncus effusus	5	No	OBL	data in Remarks or on a separate sheet)				
4.				Problematic Hydrophytic Vegetation ¹ (Explain)				
5 6				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata:				
7.								
8.				Tree - Woody plants 3 in /	7.6 cm) or	more in		
9.		·		Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
10.				Sapling/shrub – Woody pl	ante loce th	an 2 in F	NDLI	
11.				and greater than or equal to			י וטי	
12.				Haub All baubassassa (nas				
	30	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woody height.	/ines greate	er than 3.2	28 ft in	
2				Hydrophytic				
3				Hydrophytic Vegetation				
4				Present? Yes X	No			
		=Total Cover						
Domarka: (Include phote numbers here or on a cons	rata abact \			-				

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

Multiple small white birch are dead, cinnamon fern near sampling point; alder in shrub layer outside shrub sampling perimeter. Hydrophytic vegetation is present.

Depth	Matrix	o tne de	-	ı ment tı x Featur		itor or co	onfirm the absence of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-6	10YR 2/1	100					Mucky Sand
6-10	7.5YR 3/2	100					Sandy
10-22	7.5YR 3/3	100					Sandy
			·				
¹Type: C=Co	oncentration, D=Deple	etion. RI	M=Reduced Matrix. N	MS=Mas	ked San	d Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil							Indicators for Problematic Hydric Soils ³ :
Histosol			X Dark Surface (,			2 cm Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		Polyvalue Belo		ce (S8) (LRR R,	Coast Prairie Redox (A16) (LRR K, L, R)
Black His	` '		MLRA 149B	,			5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surfa				
	l Layers (A5)	(0.4.4)	High Chroma S				Thin Dark Surface (S9) (LRR K, L)
	d Below Dark Surface	(A11)	Loamy Mucky I			RK,L)	Iron-Manganese Masses (F12) (LRR K, L, R
	ark Surface (A12)		Loamy Gleyed		F2)		Piedmont Floodplain Soils (F19) (MLRA 149
	oodic (A17)		Depleted Matrix	` '	-6)		Red Parent Material (F21) (outside MLRA 1
	A 144A, 145, 149B) lucky Mineral (S1)		Redox Dark Su Depleted Dark				Very Shallow Dark Surface (F22) Other (Explain in Remarks)
	Sleyed Matrix (S4)		Redox Depress				Other (Explain in Remarks)
	ledox (S5)		Marl (F10) (LR		0)		³ Indicators of hydrophytic vegetation and
	Matrix (S6)		Red Parent Ma		21) (MI F	2Δ 145)	wetland hydrology must be present,
опірреа	Width (GO)		Red Falent Wa	itoriai (i	2 1) (IIII	u- 1-0)	unless disturbed or problematic.
	Layer (if observed):						
Type:							
	nches):						Hydric Soil Present? Yes X No
Remarks:	ara procent Hydric s	oil indica	atore Sandy Mucky M	linoral (9	21) and F	Oark Surfa	ace (S7) are satisfied.
riyuric soiis a	are present. Hydric so	JII IIIUICa	itors Sariuy Wucky W	ilileiai (3	o i) aliu L	Jaik Sulla	ace (37) are satisfied.



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 6/12/23
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP40
Investigator(s): Brauna Hartzell & Kim Shanr	non, Mead & Hunt, Inc.	Section, Tow	vnship, Range: Section 3	3, T5N, R16E
Landform (hillside, terrace, etc.): Midslope	Local r	relief (concave, convex		Slope %: 3%
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.544866	Datum: WGS84
Soil Map Unit Name: Allendale-Latty comple			NWI classification:	N/A
Are climatic / hydrologic conditions on the site		Yes X	No (If no, e	explain in Remarks.)
Are Vegetation, Soil, or Hydro			nal Circumstances" prese	
Are Vegetation , Soil , or Hydro			, explain any answers in	
<u> </u>				
SUMMARY OF FINDINGS – Attach	Site map snowing same	pling point locat	ions, transects, iiii	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	ea	
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:	
Remarks: (Explain alternative procedures he				
An analysis of antecedent precipitation indica	ates that environmental condition	ons were within norma	al range. Data point take	n in moist woods.
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (n	ninimum of two required)
Primary Indicators (minimum of one is require	ed: check all that apply)		Surface Soil Cracks	
Surface Water (A1)	Water-Stained Leaves (B		Drainage Patterns (` '
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	•
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	
Water Marks (B1)	Hydrogen Sulfide Odor (6	·C1)	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres of	•		n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro	- · · · · ·	Stunted or Stressed	
Algal Mat or Crust (B4)	Recent Iron Reduction in	•	Geomorphic Positio	
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	
		•		
Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (B	·—— · · ·	KS)	Microtopographic R FAC-Neutral Test (I	
Field Observations:	-0)	<u>_</u>	I AO-Neullai Test (I	
	No V Denth (inches):			
Surface Water Present? Yes Yes	No X Depth (inches): No X Depth (inches):			
Water Table Present? Yes Saturation Present? Yes	No X Depth (inches): No X Depth (inches):		d Hydrology Present?	Vos No Y
Saturation Present? Yes (includes capillary fringe)	No X Depth (inches):		J Hydrology Fleseilt:	Yes No_X_
Describe Recorded Data (stream gauge, mo	nitoring well aerial photos, pre	I vious inspections), if (available:	
2000,000,000,000,000,000,000,000,000,00	Thioming from, across process, pro-	, viodo iriep de al,,	Availabio.	
Remarks:				
Wetland hydrology is neither present nor indi	icated.			

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of pla	ınts.			Sampling Point:	DP40
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Acer rubrum	65	Yes	FAC	Number of Dominant Species	
2. Prunus serotina	8	No	FACU	That Are OBL, FACW, or FAC:	2 (A)
3. Quercus rubra	7	No	FACU	Total Number of Dominant	
4. Betula papyrifera	5	No	FACU	Species Across All Strata:	6 (B)
5. Pinus strobus	1	No	FACU	Percent of Dominant Species	
6		<u> </u>			33.3% (A/B)
7		<u> </u>		Prevalence Index worksheet:	
	86	=Total Cover		· · · · · · · · · · · · · · · · · · ·	ultiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 =	0
1. Acer rubrum	7	Yes	FAC	FACW species 8 x 2 =	16
2. Prunus serotina	5	Yes	FACU	FAC species 72 x 3 =	216
3				FACU species 71 x 4 =	284
4				UPL species 10 x 5 =	50
5				Column Totals: 161 (A)	566 (B)
6.		<u> </u>		Prevalence Index = B/A =	3.52
7.				Hydrophytic Vegetation Indicators:	
	12	=Total Cover	·	1 - Rapid Test for Hydrophytic Ve	getation
Herb Stratum (Plot size: 5 ft)		•		2 - Dominance Test is >50%	
1. Aralia nudicaulis	25	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹	
2. Maianthemum canadense	15	Yes	FACU	4 - Morphological Adaptations ¹ (P	rovide supporting
3. Carex pensylvanica	10	No	UPL	data in Remarks or on a separa	
4. Alnus incana	8	No	FACW	Problematic Hydrophytic Vegetati	ion ¹ (Explain)
5 6.	-	·		¹ Indicators of hydric soil and wetland he present, unless disturbed or proble	
7.				Definitions of Vegetation Strata:	ATTOCK OF
8.					
9.		·		Tree – Woody plants 3 in. (7.6 cm) or diameter at breast height (DBH), rega	
10				Sapling/shrub – Woody plants less the	han 3 in. DBH
11				and greater than or equal to 3.28 ft (1	
12	 58	=Total Cover		Herb – All herbaceous (non-woody) p of size, and woody plants less than 3.	
Woody Vine Stratum (Plot size: 15 ft)		•			
Parthenocissus quinquefolia	5	Yes	FACU	Woody vines – All woody vines great height.	ter than 3.∠8 π in
2.					
3.				Hydrophytic	
4.				Vegetation Present? Yes No	X
·	5	=Total Cover	-	110001111 100	
		-10181 00761			

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

Hydrophytic vegetation is present. About 25 ft separates this sampling point from its paired wetland sampling point (DP39) with 1 ft change in elevation

Depth Matrix Redox Features Color (moist) % Type Loc Texture Remarks
2-14
1-Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1-Type: C=Concentrati
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R)
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) For Mucky Peat or Peat (S3) (LRR K, L, R) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Hydric Soil Indicators:Indicators for Problematic Hydric Soils³:Histosol (A1)Dark Surface (S7)2 cm Muck (A10) (LRR K, L, MLRA 149B)Histic Epipedon (A2)Polyvalue Below Surface (S8) (LRR R,Coast Prairie Redox (A16) (LRR K, L, R)Black Histic (A3)MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)Polyvalue Below Surface (S8) (LRR K, L)
Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Polyvalue Below Surface (S8) (LRR K, L)
Black Histic (A3) Hydrogen Sulfide (A4) MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Polyvalue Below Surface (S8) (LRR K, L)
Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L)
Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)
Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)
Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B)
Mesic Spodic (A17) Depleted Matrix (F3) Red Parent Material (F21) (outside MLRA 145)
(MLRA 144A, 145, 149B) Redox Dark Surface (F6) Very Shallow Dark Surface (F22)
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks)
Sandy Gleyed Matrix (S4) Redox Depressions (F8)
Sandy Redox (S5) Marl (F10) (LRR K, L) Marl (F10) (LRR K, L)
Stripped Matrix (S6)Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observed):
Type:
Depth (inches):
Remarks:
Hydric soils are not present. Does not meet hydric soils criteria.



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	ATIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 6/13/23
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP41
Investigator(s): Brauna Hartzell & Kim Shan	non, Mead & Hunt, Inc.	Section, To	wnship, Range: Section 3	3, T5N, R16E
Landform (hillside, terrace, etc.): Depression	on Local r	elief (concave, conve	x, none): Concave	Slope %: <1%
Subregion (LRR or MLRA): LRR L, MLRA 9	99 Lat: 42.899205	Long:	-82.545408	Datum: WGS84
Soil Map Unit Name: Allendale-Latty comple		(Partially Hydric)	NWI classification:	N/A
Are climatic / hydrologic conditions on the site	e typical for this time of year?	Yes X	No (If no, e	explain in Remarks.)
Are Vegetation , Soil , or Hydro	•		- nal Circumstances" prese	,
Are Vegetation , Soil , or Hydro			I, explain any answers in	
SUMMARY OF FINDINGS – Attach		•		•
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled A	roa	
Hydric Soil Present?	Yes X No	within a Wetland		No
Wetland Hydrology Present?	Yes X No	If yes, optional We		
An analysis of antecedent precipitation indic	ates that environmental conditi	ons were within norm	al range.	
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is require	red; check all that apply)		Surface Soil Cracks	· · ·
Surface Water (A1)	X Water-Stained Leaves (E	39)	Drainage Patterns (·
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	·
X Saturation (A3)	Marl Deposits (B15)		X Dry-Season Water	
Water Marks (B1)	Hydrogen Sulfide Odor (·	Crayfish Burrows (C	·
Sediment Deposits (B2)	Oxidized Rhizospheres of	=		n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro		Stunted or Stressed	` '
Algal Mat or Crust (B4)	Recent Iron Reduction in	n Tilled Soils (C6)	X Geomorphic Positio	
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	·
Inundation Visible on Aerial Imagery (B	·——	ks)	Microtopographic R	
Sparsely Vegetated Concave Surface (I	38)	1	X FAC-Neutral Test ([J5)
Field Observations:	No. V. Double (back on)			
	No X Depth (inches):			
Water Table Present? Yes X	No Depth (inches):		d Hudrology Drocont?	Vac V Na
Saturation Present? Yes X (includes capillary fringe)	No Depth (inches):	0 Wetlan	d Hydrology Present?	Yes X No
Describe Recorded Data (stream gauge, mo	nitoring well aerial photos pre	vious inspections) if	available:	
Describe Nesoraea Bata (Stream gaage, me	willowing woul, delital priotos, pro	, vious mopeodons), m	avallabio.	
Remarks: Wetland hydrology is present and indicated. days prior. Water marks to 12 inches on tree Water-stained leaves throughout depression	es surrounding inundated area			

VEGETATION –	- Use scientific	names of plants	
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/EGETATION – Use scientific names of pla				Sampling Point:	DP41
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Acer rubrum	95	Yes	FAC	Number of Dominant Species	
2. Quercus bicolor	5	No	FACW	That Are OBL, FACW, or FAC:	4 (A)
3				Total Number of Dominant	
4				Species Across All Strata:	4 (B)
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 1	00.0% (A/B)
7.				Prevalence Index worksheet:	(12)
	100	=Total Cover			Iltiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)		•		OBL species 23 x 1 =	23
1.				FACW species 17 x 2 =	34
2.				FAC species 95 x 3 =	285
3.				FACU species 0 x 4 =	0
4.	-			UPL species 0 x 5 =	0
5.				Column Totals: 135 (A)	342 (B)
6.				Prevalence Index = B/A =	2.53
7.				Hydrophytic Vegetation Indicators:	
		=Total Cover		1 - Rapid Test for Hydrophytic Veg	getation
Herb Stratum (Plot size: 5 ft)		•		X 2 - Dominance Test is >50%	
1. Carex crinita	10	Yes	OBL	X 3 - Prevalence Index is ≤3.0 ¹	
2. Fraxinus pennsylvanica	10	Yes	FACW	4 - Morphological Adaptations ¹ (Pr	ovide supporting
3. Carex lupulina	10	Yes	OBL	data in Remarks or on a separa	ite sheet)
4. Iris virginica	3	No	OBL	Problematic Hydrophytic Vegetation	on ¹ (Explain)
5. Onoclea sensibilis 6.	2	No	FACW	¹ Indicators of hydric soil and wetland h be present, unless disturbed or problei	
7.				Definitions of Vegetation Strata:	
8				Tree – Woody plants 3 in. (7.6 cm) or	more in
9		. <u></u>		diameter at breast height (DBH), regar	
10				Sapling/shrub – Woody plants less th	ıan 3 in. DBH
11				and greater than or equal to 3.28 ft (1	m) tall.
12	35	=Total Cover		Herb – All herbaceous (non-woody) pl of size, and woody plants less than 3.2	
Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines greate height.	er than 3.28 ft in
2		. <u></u>			
3		. <u></u>		Hydrophytic Vegetation	
4				Present? Yes X No	
		=Total Cover			
Remarks: (Include photo numbers here or on a sena	rate cheet)				

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation is present. Green ash <1m tall, little vegetation in herb stratum, due to shade and leaf detritus.

Profile Desc Depth	ription: (Describe to Matrix	o the de	-	ument tl x Featur		itor or co	onfirm the absence of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-5	10YR 2/1	100					Muck
5-11	10YR 3/1	100					Mucky Sand
11-20	7.5YR 3/3						
11-20	7.51K 3/3	100					Sandy
¹Type: C=Co	oncentration, D=Deple	etion, RN	 ∕/=Reduced Matrix, I	MS=Mas	ked Sand	d Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I		•					Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)		X Dark Surface (2 cm Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		Polyvalue Belo		ce (S8) (I	LRR R,	Coast Prairie Redox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		MLRA 149B Thin Dark Surf	,	(I PP P	MI DA 1	5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Polyvalue Below Surface (S8) (LRR K, L)
	I Layers (A5)		High Chroma				Thin Dark Surface (S9) (LRR K, L)
	Below Dark Surface	(A11)	Loamy Mucky				Iron-Manganese Masses (F12) (LRR K, L, R)
	ark Surface (A12)	, ,	Loamy Gleyed				Piedmont Floodplain Soils (F19) (MLRA 149B
Mesic Sp	podic (A17)		Depleted Matri				Red Parent Material (F21) (outside MLRA 14
	A 144A, 145, 149B)		Redox Dark St		-		Very Shallow Dark Surface (F22)
	lucky Mineral (S1)		Depleted Dark				Other (Explain in Remarks)
	eleyed Matrix (S4)		Redox Depres	•	8)		31 maliantana at hardran hartia arang at har
	edox (S5) Matrix (S6)		Marl (F10) (LR Red Parent Ma		21) /MI E	2A 14E\	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
ourpped	Matrix (30)		Ned Falent Wa	ateriai (i	21) (IVILI	VA 140)	unless disturbed or problematic.
Restrictive L	_ayer (if observed):						
Type:							
Depth (ir	nches):						Hydric Soil Present? Yes X No
Remarks:						J	
Hydric soils a	are present. Hydric so	oil indica	tors Sandy Mucky M	lineral (S	S1) and D	Oark Surfa	ace (S7) are satisfied.



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 6/13/23
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP42
Investigator(s): Brauna Hartzell & Kim Shanr	non, Mead & Hunt, Inc.	Section, Tov	vnship, Range: Section 3	B, T5N, R16E
Landform (hillside, terrace, etc.): Midslope		relief (concave, conve	·	Slope %: 3-5%
Subregion (LRR or MLRA): LRR L, MLRA 9		•	-82.545423	 Datum: WGS84
Soil Map Unit Name: Allendale-Latty comple			NWI classification:	N/A
Are climatic / hydrologic conditions on the site		Yes X	No (If no, e	explain in Remarks.)
Are Vegetation, Soil, or Hydro	•		nal Circumstances" prese	
Are Vegetation, Soil, or Hydro			, explain any answers in	
	' <u></u>			•
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	ions, transects, ım	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	ea	
Hydric Soil Present?	Yes No X	within a Wetland?		No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:	
Remarks: (Explain alternative procedures he				
An analysis of antecedent precipitation indica	ates that environmental condition	ons were within norma	al range.	
LIVEROL OCV				
HYDROLOGY				
Wetland Hydrology Indicators:				ninimum of two required)
Primary Indicators (minimum of one is requir			Surface Soil Cracks	, ,
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (•
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	·
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	
Water Marks (B1)	Hydrogen Sulfide Odor (0	•	Crayfish Burrows (C	,
Sediment Deposits (B2)	Oxidized Rhizospheres o	• , ,		n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro		Stunted or Stressed	` '
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Positio	n (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	
Inundation Visible on Aerial Imagery (B7	7)Other (Explain in Remark	ks)	Microtopographic Re	elief (D4)
Sparsely Vegetated Concave Surface (E	38)		FAC-Neutral Test ()5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes No _X_
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	initoring well, aerial photos, pre	vious inspections), if	available:	
B. day				
Remarks: Wetland hydrology is neither present nor ind	licated Approximately () & inch	as of procinitation was	recorded over two	
days prior.	icated. Approximately 0.0 mone	as or precipitation was	Fecolued over two	
uays phor.				

|--|

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Acer rubrum	55	Yes	FAC		
Prunus serotina	30	Yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 3 ((A)
3. Pinus strobus	5	No	FACU	Total Number of Dominant	
4. Betula papyrifera	5	No	FACU		(B)
5.				Barrant of Barrin and Consider	
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 42.9% ((A/B)
7.				Prevalence Index worksheet:	
	95	=Total Cover		Total % Cover of: Multiply by:	
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 = 0	
1. Acer rubrum	25	Yes	FAC	FACW species 10 x 2 = 20	
2. Quercus bicolor	10	Yes	FACW	FAC species 80 x 3 = 240	
3. Prunus serotina	10	Yes	FACU	FACU species 75 x 4 = 300	_
4.				UPL species 0 x 5 = 0	_
5.				Column Totals: 165 (A) 560	– (B)
6				Prevalence Index = B/A = 3.39	_` ′
7.				Hydrophytic Vegetation Indicators:	_
	45	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation	
Herb Stratum (Plot size: 5 ft)				2 - Dominance Test is >50%	
Maianthemum canadense	15	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹	
Pteridium aquilinum	10	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supp	ortina
2	10	103	TAGO	data in Remarks or on a separate sheet)	orang
				Problematic Hydrophytic Vegetation ¹ (Explair	٠,١
					1)
6.				¹ Indicators of hydric soil and wetland hydrology m be present, unless disturbed or problematic.	ust
7.				Definitions of Vegetation Strata:	
8.					
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of he	ight.
10.					
11.				Sapling/shrub – Woody plants less than 3 in. DB and greater than or equal to 3.28 ft (1 m) tall.	3H
12.					
	25	=Total Cover		Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall.	dless
Woody Vine Stratum (Plot size: 15 ft)				W	
1				Woody vines – All woody vines greater than 3.28 height.	3 ft in
2.					
3				Hydrophytic Vegetation	
4.				Present? Yes No X	
		=Total Cover			
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			•	

Heavy leaf cover. Hydrophytic vegetation is not present. About 18 ft separates this sampling point from its paired wetland sampling point (DP41) with 2-3 ft change in elevation

Color (moist) % Color (moist) % Type¹ Loc² Texture Remarks 0-1 10YR 2/1 100 Loamy/Clayey Loamy/Clayey 1-3 7.5YR 5/3 100 Loamy/Clayey 3-6 7.5YR 6/3 100 Loamy/Clayey 6-16 7.5YR 3/4 100 Loamy/Clayey	
1-3 7.5YR 5/3 100 Loamy/Clayey 3-6 7.5YR 6/3 100 Loamy/Clayey	
3-6 7.5YR 6/3 100 Loamy/Clayey	
6-16 7.5YR 3/4 100 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: Indicators for Problematic Hydric Soi	ils³:
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (LRR K, L, MLRA	(149B)
Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Coast Prairie Redox (A16) (LRR K,	L, R)
Black Histic (A3) MLRA 149B)5 cm Mucky Peat or Peat (S3) (LRF	R K, L, R)
Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR	₹ K , L)
Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)	
Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Iron-Manganese Masses (F12) (LR	R K, L, R)
Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (M	LRA 149B)
Mesic Spodic (A17) Depleted Matrix (F3) Red Parent Material (F21) (outside	MLRA 145)
(MLRA 144A, 145, 149B) Redox Dark Surface (F6) Very Shallow Dark Surface (F22)	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks)	
Sandy Gleyed Matrix (S4) Redox Depressions (F8)	
Sandy Redox (S5) Marl (F10) (LRR K, L) 3Indicators of hydrophytic vegetation	
Stripped Matrix (S6)Red Parent Material (F21) (MLRA 145) wetland hydrology must be prese unless disturbed or problematic.	nt,
Restrictive Layer (if observed):	
Type: Compacted	
Depth (inches): 16 Hydric Soil Present? Yes N	lo <u>X</u>
l —	
Remarks: Hydric soils are not present. Does not meet hydric soils criteria	
Remarks: Hydric soils are not present. Does not meet hydric soils criteria.	



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNATION	NAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 9/30/23
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP43
Investigator(s): Brauna Hartzell, Mead & Hunt, Inc	c.	Section, Tow	vnship, Range: Section 3	
Landform (hillside, terrace, etc.): Depression	Local re	elief (concave, convex		Slope %: <1%
Subregion (LRR or MLRA): LRR L, MLRA 99	Lat: 42.897625		82.547867	Datum: WGS84
Soil Map Unit Name: Allendale-Latty complex, 0 t	_		NWI classification:	N/A
Are climatic / hydrologic conditions on the site typic		Yes		explain in Remarks.)
Are Vegetation , Soil , or Hydrology	•		nal Circumstances" prese	
Are Vegetation , Soil , or Hydrology			, explain any answers in	
<u> </u>				
SUMMARY OF FINDINGS – Attach site	• map snowing samp	Ilng point iocat	IONS, transects, iiii	portant reatures, etc.
Hydrophytic Vegetation Present? Yes	s_X_ No	Is the Sampled Ar	ea	
Hydric Soil Present? Yes	s X No	within a Wetland?	Yes X	No
Wetland Hydrology Present? Yes	s X No	If yes, optional Wet	tland Site ID: 30B	
Remarks: (Explain alternative procedures here of				
An analysis of antecedent precipitation indicates t	that environmental condition	ons were wetter than	normal range. Pit and mo	ound topography present.
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is required; c	check all that apply)		Surface Soil Cracks	
•	Water-Stained Leaves (B9	9)	Drainage Patterns (I	` '
X High Water Table (A2)	Aquatic Fauna (B13)	-,	Moss Trim Lines (B	·
X Saturation (A3)	Marl Deposits (B15)	•	Dry-Season Water 1	•
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres or			n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	• , ,	Stunted or Stressed	
Algal Mat or Crust (B4)	Recent Iron Reduction in	•	X Geomorphic Position	` '
Iron Deposits (B5)	Thin Muck Surface (C7)	111100 00110 (00)	Shallow Aquitard (D	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks	۹)	Microtopographic Re	
Sparsely Vegetated Concave Surface (B8)	- Other (Explain in Forma		X FAC-Neutral Test (D	
Field Observations:			<u></u>	,,,
	Depth (inches):			
	Depth (inches):	8		
Saturation Present? Yes X No			d Hydrology Present?	Yes X No
(includes capillary fringe)	, Dopui (illolloc)		i ilyaiology i iooonii.	<u> </u>
Describe Recorded Data (stream gauge, monitori	ing well, aerial photos, prev	vious inspections), if a	available:	
, 5	3 , ,	, ,		
Remarks:				
Wetland hydrology is present and indicated. Water	er-stained leaves throughou	ut wetland.		

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of pla	ınts.			Sampling Point:	DP43
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Acer rubrum	80	Yes	FAC	Number of Dominant Species	
2. Quercus rubra	15	No	FACU	That Are OBL, FACW, or FAC:	3 (A)
3. Carpinus caroliniana	5	No	FAC	Total Number of Dominant	
4.				Species Across All Strata:	4 (B)
5				Percent of Dominant Species	
6				•	75.0% (A/B)
7				Prevalence Index worksheet:	
	100	=Total Cover		Total % Cover of: Mu	ultiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 =	0
1. Carpinus caroliniana	20	Yes	FAC	FACW species 28 x 2 =	56
2. Hamamelis virginiana	10	Yes	FACU	FAC species 105 x 3 =	315
3.				FACU species 25 x 4 =	100
4.		,	<u> </u>	UPL species 0 x 5 =	0
5.				Column Totals: 158 (A)	471 (B)
6.				Prevalence Index = B/A =	2.98
7.				Hydrophytic Vegetation Indicators:	
	30	=Total Cover		1 - Rapid Test for Hydrophytic Veg	
Herb Stratum (Plot size: 5 ft)		•		X 2 - Dominance Test is >50%	
1. Osmundastrum cinnamomeum	15	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹	
2. Carex intumescens	5	No	FACW	4 - Morphological Adaptations ¹ (Pr	rovide supporting
3. Fraxinus pennsylvanica	5	No	FACW	data in Remarks or on a separa	
4. Symphyotrichum lanceolatum	3	No	FACW	Problematic Hydrophytic Vegetation	on ¹ (Explain)
5.				¹ Indicators of hydric soil and wetland h	avdrology must
6.				be present, unless disturbed or proble	
7.				Definitions of Vegetation Strata:	
8				Tree – Woody plants 3 in. (7.6 cm) or	more in
9				diameter at breast height (DBH), regar	
10.				Sapling/shrub – Woody plants less th	nan 3 in DRH
11.				and greater than or equal to 3.28 ft (1	
12				Herb – All herbaceous (non-woody) pl	lants regardless
	28	=Total Cover		of size, and woody plants less than 3.2	
Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines greate	er than 3 28 ft in
1				height.	CI (IIIII 0.20 II III
2.					
3.				Hydrophytic Vegetation	
4.				Present? Yes X No	
		=Total Cover			
		<u> </u>			

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

Hydrophytic vegetation is present. Royal fern and sensitive fern nearby. Little herbacous vegetation due to leaf litter and shade. Green ash < 1m in height.

Profile Desc Depth	ription: (Describe t Matrix	o the de	-	ument the x Feature		ator or co	onfirm the absence of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks	
0-6	10YR 3/1	100					Mucky Sand	
6-12	10YR 3/1	100					Loamy/Clayey	
12-24	10YR 5/2	100					Sandy	
	-							
	-							
¹Type: C=Co	oncentration, D=Depl	etion, RI	√=Reduced Matrix, N	MS=Mas	ked San	d Grains.	² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil I							Indicators for Problematic Hydric So	ils³:
Histosol			X Dark Surface ((00) (2 cm Muck (A10) (LRR K, L, MLRA	
	oipedon (A2)		Polyvalue Belo		ce (S8) (LRR R,	Coast Prairie Redox (A16) (LRR K	
Black His	n Sulfide (A4)		MLRA 149B Thin Dark Surf	,	(I RR R	MI RA 1	5 cm Mucky Peat or Peat (S3) (LRi Polyvalue Below Surface (S8) (LRi	
	Layers (A5)		High Chroma S				Thin Dark Surface (S9) (LRR K, L)	
	Below Dark Surface	(A11)	Loamy Mucky				Iron-Manganese Masses (F12) (LR	
	rk Surface (A12)	` '	Loamy Gleyed				Piedmont Floodplain Soils (F19) (N	
Mesic Sp	oodic (A17)		Depleted Matri				Red Parent Material (F21) (outside	e MLRA 145)
	A 144A, 145, 149B)		Redox Dark Su				Very Shallow Dark Surface (F22)	
	lucky Mineral (S1)		Depleted Dark				Other (Explain in Remarks)	
	leyed Matrix (S4) edox (S5)		Redox Depres Marl (F10) (LR		8)		³ Indicators of hydrophytic vegetatio	on and
	Matrix (S6)		Red Parent Ma		21) (MI F	RA 145)	wetland hydrology must be prese	
					/ (,	unless disturbed or problematic.	,
Restrictive I	_ayer (if observed):							
Type:								
Depth (ir	nches):						Hydric Soil Present? Yes X	No
Remarks:								
Hydric soils a	are present. Hydric s	oil indica	itors Sandy Mucky M	lineral (S	S1) and E	Dark Surfa	ace (S7) are satisfied. High organic content in top) layer.



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 9/30/23
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP44
Investigator(s): Brauna Hartzell, Mead & Hur	nt, Inc.	Section, Tow	vnship, Range: Section 3	
Landform (hillside, terrace, etc.): Terrace		relief (concave, conve		Slope %: 2-3%
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.547767	Datum: WGS84
Soil Map Unit Name: Allendale-Latty comple			NWI classification:	N/A
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)
, ,	,,		· · · · · · · · · · · · · · · · · · ·	
Are Vegetation, Soil, or Hydro			nal Circumstances" prese	
Are Vegetation, Soil, or Hydro			, explain any answers in	
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	'ea	
Hydric Soil Present?	Yes No X	within a Wetland?		No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet		
Remarks: (Explain alternative procedures he	ere or in a separate report.)			
An analysis of antecedent precipitation indica			• •	t taken on mound above
depressional area within pit and mount topog	graphy; topography is generally	/ rising in transition to	uplands.	
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is require		 	Surface Soil Cracks	` '
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (•
High Water Table (A2)	Aquatic Fauna (B13)	,	Moss Trim Lines (B	·
Saturation (A3)	Marl Deposits (B15)	,	Dry-Season Water	
Water Marks (B1)	Hydrogen Sulfide Odor (0	•	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres o	- · · · · ·		n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro	on (C4)	Stunted or Stressed	l Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Positio	n (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	93)
Inundation Visible on Aerial Imagery (B7	7)Other (Explain in Remark	ks)	Microtopographic Re	elief (D4)
Sparsely Vegetated Concave Surface (E	38)		FAC-Neutral Test (E	D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes NoX_
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pre	vious inspections), if a	available:	
Remarks: Wetland hydrology is neither present nor ind	licated			
Wettand flydrology is ficitaled present her and	icaleu.			

VEGETATION – Use scientific names of plants.	Sampling Point:
VEGETATION — USE SCIENTING HARNES OF Plants.	Sampling Folia.

<u>Tree Stratum</u> (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test work	sheet:		
1. Acer rubrum	85	Yes	FAC				
2. Quercus rubra	15	No	FACU	Number of Dominant S That Are OBL, FACW,	•	2	(A)
3.				Total Number of Domir	nant		
4				Species Across All Stra		5	(B)
5				Percent of Dominant S	pecies		
6.				That Are OBL, FACW,	•	40.0%	(A/B)
7				Prevalence Index wor	ksheet:		
	100	=Total Cover		Total % Cover of:		Multiply by:	
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0	x 1 =	= 0	
1. Carpinus caroliniana	25	Yes	FAC	FACW species 0	x 2 =	=0	_
2.				FAC species11	0 x 3 =	330	_
3.	1			FACU species28	x 4 =	= 112	
4.				UPL species 0	x 5 =	= 0	
5				Column Totals: 13	(A)	442	(B)
6				Prevalence Inde	x = B/A =	3.20	
7.				Hydrophytic Vegetati	on Indicators	s:	
	25	=Total Cover		1 - Rapid Test for I	Hydrophytic V	/egetation	
Herb Stratum (Plot size: 5 ft)				2 - Dominance Tes	st is >50%		
1. Aralia nudicaulis	5	Yes	FACU	3 - Prevalence Inde	ex is ≤3.0 ¹		
2. Hamamelis virginiana	5	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supp			
3. Medeola virginiana	3	Yes	FACU	data in Remarks	or on a sepa	arate sheet)	
4				Problematic Hydro	phytic Vegeta	ation ¹ (Expla	ain)
5 6.				¹ Indicators of hydric so be present, unless dist			must
7.				Definitions of Vegetar			
8.		· <u></u>		Tree – Woody plants 3	in (7.6 cm)	or more in	
9.		· <u></u>		diameter at breast heig			neight.
10.		· <u></u>		Sapling/shrub – Wood	dy plante loce	than 3 in F	חםר
11.				and greater than or equ	• .		ווטע
12.		· <u></u>		Herb – All herbaceous	(non woody)	planta roa	ardlooo
	13	=Total Cover		of size, and woody plan	• • •		aruiess
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woo height.	ody vines gre	ater than 3.	28 ft in
2				Hydrophytic			
3				Vegetation			
4.				Present? Yes	N	oX	
		=Total Cover					

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

Hydrophytic vegetation is present. About 30 ft separates this sampling point from its paired wetland sampling point (DP43) with 1 ft change in elevation. Hazel <1m tall; not much herbaceous vegetation due to leaf litter and shade.

DP44

Depth	cription: (Describe t Matrix	to the de	•	ument ti x Featur		ator or co	onfirm the absence of	indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-5	10YR 2/1	100					Loamy/Clayey		
5-22	7.5YR 4/4	100					Loamy/Clayey		
<u>J-ZZ</u>	7.511(4)4	100					Loamy/Olayey		
									_
-	oncentration, D=Depl	etion, RN	M=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.	² Location: PL		
Hydric Soil			Dark Surface	C7)					c Hydric Soils ³ :
Histosol	oipedon (A2)		Dark Surface (Polyvalue Belo	,	ce (S8) (I	I DD D			R K, L, MLRA 149B) A16) (LRR K, L, R)
Black Hi			MLRA 149B		Ce (30) (I	LKK K,			eat (S3) (LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surfa	,	(LRR R	, MLRA 1		-	ce (S8) (LRR K, L)
	Layers (A5)		High Chroma S					Surface (S9)	
Depleted	Below Dark Surface	e (A11)	Loamy Mucky	Mineral	(F1) (LR I	R K, L)	Iron-Mang	ganese Masse	es (F12) (LRR K, L, R)
Thick Da	ark Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmont	Floodplain S	ioils (F19) (MLRA 149B)
Mesic S _I	podic (A17)		Depleted Matri				Red Pare	nt Material (F	21) (outside MLRA 145
	A 144A, 145, 149B)		Redox Dark Su					llow Dark Surf	
	lucky Mineral (S1)		Depleted Dark				Other (Ex	plain in Rema	arks)
	Sleyed Matrix (S4)		Redox Depress		8)		31		dia variatatian and
	ledox (S5) Matrix (S6)		Marl (F10) (LR Red Parent Ma		21) /MI E	DA 145\			rtic vegetation and nust be present,
Stripped	Watrix (30)		Red Falent Wa	ileriai (i	21) (WILI	XA 145)		disturbed or p	•
Restrictive I	Layer (if observed):						4	<u></u>	
Type:	,								
Depth (ir	nches):						Hydric Soil Present	t? Ye	es No_X_
Remarks:									
Hydric soils a	are not present. Does	not mee	et hydric soils criteria						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNATION	NAL AIRPORT (PHN) City/Count	ty: St Clair	Sampling Date: 9/30/23
Applicant/Owner: St. Clair County		State: MI	Sampling Point: DP45
Investigator(s): Brauna Hartzell, Mead & Hunt, Inc	cS	section, Township, Range: Section 3	, T5N, R16E
Landform (hillside, terrace, etc.): Drainage way	Local relief (conc	ave, convex, none): Concave	Slope %: 1-2%
Subregion (LRR or MLRA): LRR L, MLRA 99	Lat: 42.897562	Long: -82.545408	Datum: WGS84
Soil Map Unit Name: Wainola-Deford fine sands,		_	N/A
Are climatic / hydrologic conditions on the site typic			explain in Remarks.)
Are Vegetation , Soil , or Hydrology	·	Are "Normal Circumstances" preser	
Are Vegetation, Soil, or Hydrology		(If needed, explain any answers in	
SUMMARY OF FINDINGS – Attach site	map showing sampling po	int locations, transects, ım	portant features, etc.
Hydrophytic Vegetation Present? Yes	s X No Is the Sa	ampled Area	
Hydric Soil Present? Yes	S X No within a	Wetland? Yes X	No
Wetland Hydrology Present? Yes	S X No If yes, or	ptional Wetland Site ID: 32B	
Remarks: (Explain alternative procedures here of An analysis of antecedent precipitation indicates the drainageway.		vetter than normal range. Data point	taken in shrubby
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (m	inimum of two required)
Primary Indicators (minimum of one is required; cl	check all that apply)	Surface Soil Cracks	
Surface Water (A1)	_Water-Stained Leaves (B9)	Drainage Patterns (E	310)
X High Water Table (A2)	_Aquatic Fauna (B13)	Moss Trim Lines (B1	16)
X Saturation (A3)	_Marl Deposits (B15)	Dry-Season Water T	
Water Marks (B1)	_Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C	′
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Re	· · ·	Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed	, ,
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil		
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	_Thin Muck Surface (C7) Other (Explain in Remarks)	Shallow Aquitard (Di Microtopographic Re	
Sparsely Vegetated Concave Surface (B8)	Office (Explain in Nemarks)	X FAC-Neutral Test (D	, ,
Field Observations:		<u> </u>	,,,,
	Depth (inches):		
	Depth (inches): 6		
	Depth (inches): 0	Wetland Hydrology Present?	Yes X No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring	ing well, aerial photos, previous inspe	ections), if available:	
Remarks: Data point taken at edge of drainageway. Wetland	d hydrology is present and indicated.	. Standing water in drainage way app	proximately 10 feet away.

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of pla	nts.			Sampling Point: _	DP45
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Populus deltoides	35	Yes	FAC	Number of Dominant Species	
2. Salix nigra	20	Yes	OBL	That Are OBL, FACW, or FAC:	7 (A)
3				Total Number of Dominant	
4				Species Across All Strata:	8 (B)
5		·		Percent of Dominant Species	
6					87.5% (A/B)
7				Prevalence Index worksheet:	
Ocalia (Obash Otatas (District)	55	=Total Cover		· · · · · · · · · · · · · · · · · · ·	Itiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)	70		E4 014/	OBL species 20 x 1 =	20
1. Salix discolor	70	Yes	FACW	FACW species 145 x 2 =	290
2. Rosa multiflora	10	No	FACU	FAC species 40 x 3 =	120
3. Betula papyrifera	5	No	FACU	FACU species 35 x 4 =	140
4	-			UPL species 0 x 5 =	0
5				Column Totals: 240 (A)	570 (B)
6				Prevalence Index = B/A =	2.38
7				Hydrophytic Vegetation Indicators:	
	85	=Total Cover		1 - Rapid Test for Hydrophytic Veg	jetation
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%	
1. Equisetum pratense	30	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹	
2. Onoclea sensibilis	20	Yes	FACW	4 - Morphological Adaptations ¹ (Pr	
3. Phragmites australis	10	Yes	FACW	data in Remarks or on a separa	te sheet)
4. Doellingeria umbellata	10	Yes	FACW	Problematic Hydrophytic Vegetation	on ¹ (Explain)
5. Pteridium aquilinum	10	Yes	FACU	¹ Indicators of hydric soil and wetland h	vdrology must
6. Fragaria virginiana	5	No	FACU	be present, unless disturbed or probler	
7. Solidago canadensis	5	No	FACU	Definitions of Vegetation Strata:	
8. Euthamia graminifolia	5	No	FAC	Tree – Woody plants 3 in. (7.6 cm) or r	more in
9. Symphyotrichum lanceolatum	5	No	FACW	diameter at breast height (DBH), regar	
10				Sapling/shrub – Woody plants less th	an 3 in DBH
11				and greater than or equal to 3.28 ft (1 r	
12				Herb – All herbaceous (non-woody) pla	ants, regardless
	100	=Total Cover		of size, and woody plants less than 3.2	
Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines greate	er than 3.28 ft in
1				height.	
2					
3.				Hydrophytic Vegetation	
4.				Present? Yes X No	
		=Total Cover	_		
Remarks: (Include photo numbers here or on a separ	rate sheet.)				

Hydrophytic vegetation is present.

Profile Descr Depth	iption: (Describe to Matrix	o the de	-	ument th x Featur		ator or co	onfirm the absence o	of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-3	10YR 3/2	100					Loamy/Clayey		
3-9	10YR 6/1	95	10YR 5/6	5	С	М	Sandy	Prominent redox concentrations	;
9-18	10YR 5/2	80	10YR 5/6	20	С	M	Sandy	Prominent redox concentrations	;
									—
									—
									—
1T			M-Dadwaad Matrix N		Lead Care	d Casina	21	N - Dava Lining M-Makin	
Hydric Soil Ir		etion, Ri	M=Reduced Matrix, M	15=Ivias	ked San	d Grains.		PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :	
Histosol (Dark Surface (S	S7)				uck (A10) (LRR K, L, MLRA 149B)	
	pedon (A2)		Polyvalue Belo	,	ce (S8) (LRR R,		rairie Redox (A16) (LRR K, L, R)	
Black His			MLRA 149B)					ucky Peat or Peat (S3) (LRR K, L, F	₹)
Hydrogen	Sulfide (A4)		Thin Dark Surfa	ace (S9)	(LRR R	, MLRA 1	Polyvalu	ue Below Surface (S8) (LRR K, L)	
	Layers (A5)		X High Chroma S					rk Surface (S9) (LRR K, L)	
	Below Dark Surface	(A11)	Loamy Mucky I			R K , L)		nganese Masses (F12) (LRR K, L, I	
	k Surface (A12) odic (A17)		Loamy Gleyed Depleted Matrix		F2)			nt Floodplain Soils (F19) (MLRA 14 rent Material (F21) (outside MLRA	
	144A, 145, 149B)		Redox Dark Su		:6)			allow Dark Surface (F22)	143)
	ucky Mineral (S1)		Depleted Dark					Explain in Remarks)	
	eyed Matrix (S4)		Redox Depress					,	
X Sandy Re	edox (S5)		Marl (F10) (LR l	R K, L)			³ Indicato	ors of hydrophytic vegetation and	
Stripped I	Matrix (S6)		Red Parent Ma	terial (F	21) (MLF	RA 145)	wetlar	nd hydrology must be present,	
5	(15.1						unless	s disturbed or problematic.	
Type:	ayer (if observed):								
- · · -							Uhadaia Cail Dagas	m42 Van V Na	
Depth (in	cnes):						Hydric Soil Prese	nt? Yes <u>X</u> No	
Remarks:	re present. Hydric s	oil indica	ators Sandy Padov (S	SS) High	Chroma	s Sands (S11) and Depleted B	elow Dark Surface (A11) are satisfic	ad.
riyuno sons a	re present. Tryune s	on maioe	nois dandy redux (e	,o), i ligi	i Omome	a Garias (OTT) and Depleted Bi	Slow Bark Guriage (ATT) are satisfic	,u.



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 9/30/23
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP46
Investigator(s): Brauna Hartzell, Mead & Hur	nt, Inc.	Section, Tow	vnship, Range: Section 3	B, T5N, R16E
Landform (hillside, terrace, etc.): Footslope	Local re	elief (concave, conve	·	Slope %: 3%
Subregion (LRR or MLRA): LRR L, MLRA 9		•	-82.545472	 Datum: WGS84
Soil Map Unit Name: Wainola-Deford fine sa			NWI classification:	N/A
Are climatic / hydrologic conditions on the site		Yes	No X (If no. (explain in Remarks.)
Are Vegetation, Soil, or Hydro			nal Circumstances" prese	
Are Vegetation, Soil, or Hydro			l, explain any answers in	
	<u></u>			•
SUMMARY OF FINDINGS – Attach	site map snowing samp	pling point locat	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	ea	
Hydric Soil Present?	Yes No X	within a Wetland?		No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:	
Remarks: (Explain alternative procedures he	,			
An analysis of antecedent precipitation indica	ates that environmental condition	ons were wetter than	normal range.	
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is require	ed: check all that apply)		Surface Soil Cracks	-
Surface Water (A1)	Water-Stained Leaves (B		Drainage Patterns (, ,
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	•
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	·
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres o		<u> </u>	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	• , ,	Stunted or Stressed	
Algal Mat or Crust (B4)	Recent Iron Reduction in	•	Geomorphic Positio	·
Iron Deposits (B5)	Thin Muck Surface (C7)	Tilled Solis (Co)	Shallow Aquitard (D	
Inundation Visible on Aerial Imagery (B7			Microtopographic Ro	•
Sparsely Vegetated Concave Surface (B			FAC-Neutral Test (` ,
Field Observations:	10)	.		
	No V Denth (inches):			
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):			
Water Table Present? Yes Saturation Present? Yes	No X Depth (inches): _ No X Depth (inches): _		d Hydrology Present?	Vos No Y
(includes capillary fringe)	No X Depth (inches):		a Hydrology Fresent:	Yes No_X_
Describe Recorded Data (stream gauge, mo	nitoring well aerial photos pre		availahle	
, possing (1000) 222 2312 (22 - 222 gains)	Thioming Won, 55.15. [vious incp = = = = ,,	AVGINGETO.	
Remarks:				
Wetland hydrology is neither present nor indi	icated.			

VEGETATION – Use scientific names of plants.

'EGETATION – Use scientific names of pla	nts.			Sampling Point:	DP46		
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. Populus tremuloides	10	Yes	FAC	Number of Dominant Species			
2.				That Are OBL, FACW, or FAC:	1 (A)		
3.				Total Number of Dominant			
4.				Species Across All Strata:	5 (B)		
5.		· ——		Percent of Dominant Species	00.00/ (A/D)		
6.				That Are OBL, FACW, or FAC:	20.0% (A/B)		
7				Prevalence Index worksheet:			
0. 15. (0) 1.01 (1.15)	10	=Total Cover			fultiply by:		
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 =			
1. Elaeagnus umbellata	30	Yes	UPL	FACW species 8 x 2 =			
2. Populus tremuloides	5	No	FAC	FAC species 25 x 3 =			
3				FACU species 37 x 4 =	148		
4				UPL species 80 x 5 =	400		
5				Column Totals: 150 (A)	639 (B)		
6.				Prevalence Index = B/A =	4.26		
7				Hydrophytic Vegetation Indicators	;:		
	35	=Total Cover		1 - Rapid Test for Hydrophytic V	egetation		
Herb Stratum (Plot size: 5 ft)				2 - Dominance Test is >50%			
1. Poa pratensis	20	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹			
2. Daucus carota	20	Yes	UPL	4 - Morphological Adaptations ¹ (Provide supporting			
3. Solidago speciosa	15	Yes	UPL	data in Remarks or on a sepa	rate sheet)		
4. Euthamia graminifolia	10	No	FAC	Problematic Hydrophytic Vegeta	tion ¹ (Explain)		
5. Fragaria virginiana	10	No	FACU	¹ Indicators of hydric soil and wetland	hydrology must		
6. Festuca trachyphylla	10	No	UPL	be present, unless disturbed or probl			
7. Symphyotrichum lanceolatum	8	No	FACW	Definitions of Vegetation Strata:			
8. Crepis tectorum	5	No	UPL	Tree – Woody plants 3 in. (7.6 cm) o	or more in		
9. Achillea millefolium	5	No	FACU	diameter at breast height (DBH), reg			
10. Pteridium aquilinum	2	No	FACU	Sapling/shrub – Woody plants less	than 3 in DRH		
11				and greater than or equal to 3.28 ft (
12.				Have All harbaccaus (non woods)	nlanta ragardlasa		
	105	=Total Cover		Herb – All herbaceous (non-woody) of size, and woody plants less than 3			
Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines grea	ater than 3.28 ft in		
1				height.			
2							
3				Hydrophytic Vegetation			
4.					x		
		=Total Cover					
Remarks: (Include photo numbers here or on a separ	ate sheet.)	•					

Hydrophytic vegetation is not present. About 20 ft separates this sampling point from its paired wetland sampling point (DP45) with 2 ft change in elevation. Populus < 3in DBH.

Profile Desci Depth	ription: (Describe t Matrix	to the de		ument tl x Featur		ator or co	onfirm the absence o	f indicate	ors.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	·ks
0-9	10YR 3/1	100					Loamy/Clayey			
9-22	10YR 5/4	100					Sandy			
3-22	10110 3/4	100					Garidy			
							_			
	ncentration, D=Depl	etion, RN	/I=Reduced Matrix, N	์ ИS=Mas	ked Sand	d Grains.	² Location: F			
Hydric Soil I			5 1 5 6				Indicators f		-	
Histosol (` '		Dark Surface (oo (CO) (I	I DD D			-	MLRA 149B)
Black His	ipedon (A2)		Polyvalue Belo		ce (36) (I	LKK K,			lox (A16) (LF	(LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surf	,	(LRR R	. MLRA 1		-	Surface (S8)	
	Layers (A5)		High Chroma S						e (S9) (LRR	
	Below Dark Surface	e (A11)	Loamy Mucky							() (LRR K, L, R)
Thick Da	rk Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmor	nt Floodpl	lain Soils (F1	9) (MLRA 149B)
Mesic Sp	odic (A17)		Depleted Matri	x (F3)			Red Par	ent Mate	rial (F21) (o u	itside MLRA 145)
	A 144A, 145, 149B)		Redox Dark Su		-				k Surface (F	22)
	ucky Mineral (S1)		Depleted Dark				Other (E	xplain in	Remarks)	
	leyed Matrix (S4)		Redox Depres		8)		31	6 1		-4-4:
	edox (S5) Matrix (S6)		Marl (F10) (LR Red Parent Ma	. ,	21) /MI E	DA 145\		-	rophytic vege	
Suipped	Wattix (30)		Neu Falent Ma	aleriai (i	21) (WILI	XA 145)			d or problem	
Restrictive L	.ayer (if observed):						dillock	o diotal bo	a or problem	ano.
Type:	,									
Depth (in	ches):						Hydric Soil Prese	nt?	Yes	No X
Remarks:										
Hydric soils a	re not present. Does	s not mee	et hydric soils criteria	l.						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	ATIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 9/30/23			
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP47			
Investigator(s): Brauna Hartzell, Mead & Hu	nt, Inc.	Section, To	wnship, Range: Section	3, T5N, R16E			
Landform (hillside, terrace, etc.): Drainage	eway Local re	elief (concave, conve	x, none): Concave	Slope %: 1-2%			
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.544118	Datum: WGS84			
Soil Map Unit Name: Wainola-Deford fine s			NWI classification:				
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)			
Are Vegetation, Soil, or Hydro			nal Circumstances" pres				
Are Vegetation, Soil, or Hydro	ologynaturally problemate	tic? (If needed	I, explain any answers ir	n Remarks.)			
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locat	tions, transects, in	nportant features, etc.			
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled A	rea				
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No			
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 18I				
Remarks: (Explain alternative procedures han analysis of antecedent precipitation indicates the second precipitation indi	,	ons were wetter than	normal range.				
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators (r	minimum of two required)			
Primary Indicators (minimum of one is requi	red; check all that apply)		Surface Soil Crack	s (B6)			
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns				
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (E	·			
X Saturation (A3)	Marl Deposits (B15)		Dry-Season Water				
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (·			
Sediment Deposits (B2)	Oxidized Rhizospheres o	• , ,		on Aerial Imagery (C9)			
Drift Deposits (B3)	Presence of Reduced Iro Recent Iron Reduction in		Stunted or Stresse	, ,			
Algal Mat or Crust (B4) Iron Deposits (B5)	Thin Muck Surface (C7)	Tilleu Solis (Co)	Filled Soils (C6) X Geomorphic Position (D2) Shallow Aquitard (D3)				
Inundation Visible on Aerial Imagery (B		(e)	Microtopographic F	•			
Sparsely Vegetated Concave Surface (I	· —	(0)	X FAC-Neutral Test (
Field Observations:		T	<u></u> ·	/			
Surface Water Present? Yes	No X Depth (inches):						
Water Table Present? Yes X	No Depth (inches):	18					
Saturation Present? Yes X	No Depth (inches):	5 Wetlan	d Hydrology Present?	Yes X No			
(includes capillary fringe)							
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos, pre	vious inspections), if	available:				
Remarks: Wetland hydrology is present and indicated table under this situation likely does not menormal conditions. The wetland hydrology c	et the Dry-Season Water Table	(C2) indicator and the	e water table likely stays	below 12 inches even under			

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of pla	ınts.			Sampling Point:	DP47		
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. Populus deltoides	30	Yes	FAC	Number of Dominant Species			
2. Fraxinus pennsylvanica	10	Yes	FACW	That Are OBL, FACW, or FAC:	6 (A)		
3. Quercus bicolor	5	No	FACW	Total Number of Dominant			
4.				Species Across All Strata:	8 (B)		
5.				Percent of Dominant Species			
6.				· ·	75.0% (A/B)		
7.				Prevalence Index worksheet:			
	45	=Total Cover		Total % Cover of: Mu	ıltiply by:		
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 10 x 1 =	10		
1. Cornus racemosa	25	Yes	FAC	FACW species 60 x 2 =	120		
2. Cephalanthus occidentalis	10	Yes	OBL	FAC species 60 x 3 =	180		
3. Salix interior	10	Yes	FACW	FACU species 60 x 4 =	240		
4.				UPL species 0 x 5 =	0		
5.		,		Column Totals: 190 (A)	550 (B)		
6.				Prevalence Index = B/A =	2.89		
7.		,		Hydrophytic Vegetation Indicators:			
	45	=Total Cover		1 - Rapid Test for Hydrophytic Veg	getation		
Herb Stratum (Plot size: 5 ft)		•		X 2 - Dominance Test is >50%	•		
1. Poa pratensis	40	Yes	FACU	X 3 - Prevalence Index is ≤3.0 ¹			
Solidago canadensis	20	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporting			
Solidago gigantea	20	Yes	FACW	data in Remarks or on a separa			
4. Phragmites australis	10	No	FACW	Problematic Hydrophytic Vegetation	on ¹ (Explain)		
Symphyotrichum novae-angliae	5	No	FACW	<u> </u>			
6. Geum aleppicum	5	No	FAC	 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 			
7.				Definitions of Vegetation Strata:			
8.							
9.				Tree – Woody plants 3 in. (7.6 cm) or diameter at breast height (DBH), regar			
10					-		
11.				Sapling/shrub – Woody plants less the and greater than or equal to 3.28 ft (1			
12.				and greater than or equal to 3.20 ft (1	m) tan.		
12.	100	=Total Cover		Herb – All herbaceous (non-woody) pl of size, and woody plants less than 3.2			
Moody Vino Stratum (Dlot size: 15 ft)	100	- Total Covel					
Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines greate	er than 3.28 ft in		
1				height.			
2.	-			Hydrophytic			
3.				Vegetation			
4		-Tatal O		Present? Yes X No			
		=Total Cover					
Remarks: (Include photo numbers here or on a sepa	rate sheet.)						

Hydrophytic vegetation is present.

Color (moist)	Profile Desci Depth	ription: (Describe t Matrix	o the de	-	ument th x Featur		ator or co	onfirm the absence of	indicators.)	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Loamy/Clayey Prominent redox concentrations			%				Loc ²	Texture	Remarks	s
12-18	0-6	10YR 2/1	100					Loamy/Clayey		
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Black Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) High Croma Sands (S11) (LRR R, L) Stratified Layers (A5) MERA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) High Chroma Sands (S11) (LRR K, L) Torchark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Loamy Cleyed Matrix (F2) Mesic Spodic (A17) Sandy Gleyed Matrix (S4) Sandy Mesic Spodic (A17) Sandy Redox (S5) Mari (F1) (LRR K, L) Sandy Redox (S5) Mari (F1) (LRR K, L) Sandy Redox (S5) Mari (F1) (LRR K, L) Mari (F1) (LRR K, L) Sandy Redox (S5) Mari (F10) (LRR K, L) Mari (F10) (LRR	6-12	10YR 5/1	90	10YR 5/6	10	С	М	Loamy/Clayey	Prominent redox co	ncentrations
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ## Hydric Soil Indicators: Histosol (A1)	12-18	10YR 5/1	50	10YR 5/6	50	С	М	Loamy/Clayey	Prominent redox co	ncentrations
Hydric Soil Indicators: Histosol (A1)										
Hydric Soil Indicators: Histosol (A1)										
Hydric Soil Indicators: Histosol (A1)										
Hydric Soil Indicators: Histosol (A1)										
Hydric Soil Indicators: Histosol (A1)										
Hydric Soil Indicators: Histosol (A1)										
Hydric Soil Indicators: Histosol (A1)										
Hydric Soil Indicators: Histosol (A1)										
Hydric Soil Indicators: Histosol (A1)										
Hydric Soil Indicators: Histosol (A1)										
Hydric Soil Indicators: Histosol (A1)				-						
Histosol (A1)	¹ Type: C=Co	ncentration, D=Deple	etion, RN	M=Reduced Matrix, N	/IS=Mas	ked San	d Grains.	² Location: PL	_=Pore Lining, M=Matr	ix.
Histic Epipedon (A2) Black Histic (A3) MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L, R) Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Predmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (A17) Mesic Spodic (A17) Mesic Spodic (A17) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks: Hydric soils are present. Hydric soil indicators Depleted Matrix (F3) and Depleted Below Dark Surface (A11) are satisfied. Soils very heavy clay and	•								•	
Black Histic (A3) MLRA 149B) Hydrogen Sulfide (A4) Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Inon-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (A17) X Depleted Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Red Parent Material (F21) (outside MLRA 145) Wery Shallow Dark Surface (F22) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks: Hydric soils are present. Hydric soil indicators Depleted Matrix (F3) and Depleted Below Dark Surface (A11) are satisfied. Soils very heavy clay and						(00) (
Hydrogen Sulfide (A4) Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L) Thin Dark Surface (S9) (LRR R, MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (A17) M						ce (58) (LKK K,			
Stratified Layers (A5)		` '			,	(LRR R	. MLRA 1			
Thick Dark Surface (A12) Mesic Spodic (A17) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (F3) Sandy Redox Dark Surface (F7) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (outside MLRA 145) Wery Shallow Dark Surface (F22) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks: Hydric soils are present. Hydric soil indicators Depleted Matrix (F3) and Depleted Below Dark Surface (A11) are satisfied. Soils very heavy clay and										
Mesic Spodic (A17)	X Depleted	Below Dark Surface	(A11)	Loamy Mucky	Mineral	(F1) (LR	RK, L)	Iron-Man	ganese Masses (F12)	(LRR K, L, R)
MLRA 144A, 145, 149B) Redox Dark Surface (F6) Very Shallow Dark Surface (F22)	Thick Da	rk Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmont	Floodplain Soils (F19)) (MLRA 149B)
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks: Hydric soils are present. Hydric soil indicators Depleted Matrix (F3) and Depleted Below Dark Surface (A11) are satisfied. Soils very heavy clay and										
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks: Hydric soils are present. Hydric soil indicators Depleted Matrix (F3) and Depleted Below Dark Surface (A11) are satisfied. Soils very heavy clay and										2)
Sandy Redox (S5)								Other (Ex	tpiain in Remarks)	
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks: Hydric soils are present. Hydric soil indicators Depleted Matrix (F3) and Depleted Below Dark Surface (A11) are satisfied. Soils very heavy clay and						0)		³ Indicator	s of hydrophytic veget	ation and
Restrictive Layer (if observed): Type: Depth (inches): Remarks: Hydric soils are present. Hydric soil indicators Depleted Matrix (F3) and Depleted Below Dark Surface (A11) are satisfied. Soils very heavy clay and						21) (MLF	RA 145)			
Type: Depth (inches): Hydric Soil Present? Yes X No Remarks: Hydric soils are present. Hydric soil indicators Depleted Matrix (F3) and Depleted Below Dark Surface (A11) are satisfied. Soils very heavy clay and		,				, ,	,			
Depth (inches): Hydric Soil Present? Yes X No	Restrictive L	ayer (if observed):								
Remarks: Hydric soils are present. Hydric soil indicators Depleted Matrix (F3) and Depleted Below Dark Surface (A11) are satisfied. Soils very heavy clay and	Type:									
Hydric soils are present. Hydric soil indicators Depleted Matrix (F3) and Depleted Below Dark Surface (A11) are satisfied. Soils very heavy clay and	Depth (in	ches):						Hydric Soil Presen	t? Yes X	No
could contain the following water to 12 mones on less in the wet season.							ed Below	Dark Surface (A11) are	e satisfied. Soils very h	neavy clay and
	Codia Contino	tic to perching water	10 12 111	ones of less in the w	51 30030)II.				



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 9/30/23
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP48
Investigator(s): Brauna Hartzell, Mead & Hur	nt, Inc.	Section, Tow	vnship, Range: Section 3	B, T5N, R16E
Landform (hillside, terrace, etc.): Midslope	Local re	elief (concave, conve		Slope %: 3-5%
Subregion (LRR or MLRA): LRR L, MLRA 9		•	-82.544191	 Datum: WGS84
Soil Map Unit Name: Wainola-Deford fine sa			NWI classification:	N/A
Are climatic / hydrologic conditions on the site		Yes	No X (If no. 6	explain in Remarks.)
Are Vegetation, Soil, or Hydro			nal Circumstances" prese	
Are Vegetation, Soil, or Hydro			, explain any answers in	
				•
SUMMARY OF FINDINGS – Attach	site map snowing sami	pling point locat	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	ea	
Hydric Soil Present?	Yes No X	within a Wetland?		No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:	
Remarks: (Explain alternative procedures he	' '			
An analysis of antecedent precipitation indica	ates that environmental condition	ons were wetter than	normal range.	
I				
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is requir	red: check all that apply)		Surface Soil Cracks	-
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (, ,
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	•
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	·
Water Marks (B1)	Hydrogen Sulfide Odor (0	C1)	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres o	•	`	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro	• • • •	Stunted or Stressed	
Algal Mat or Crust (B4)	Recent Iron Reduction in	•	Geomorphic Positio	` '
Iron Deposits (B5)	Thin Muck Surface (C7)	Tilled Solis (Co)	Shallow Aquitard (D	
Inundation Visible on Aerial Imagery (B7		l/a\	Microtopographic R	•
Sparsely Vegetated Concave Surface (E		(8)	FAC-Neutral Test (, ,
Field Observations:	10)		IAO-Neuliai 1631 (L	
	No V Denth (inches):			
Surface Water Present? Yes Water Table Present? Yes	No X Depth (inches): No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):		d Undralagy Present?	Vac No Y
Saturation Present? Yes (includes capillary fringe)	No X Depth (inches):	Welland	d Hydrology Present?	Yes No_X_
Describe Recorded Data (stream gauge, mo	nitoring well aerial photos pre	vious inspections) if:	availahle:	
Describe recorded Bata (stream gatage,	Thioming won, donar priotos, p. o	viodo mopestismo _j , :	IValiabio.	
Remarks:				
Wetland hydrology is neither present nor ind	icated.			

VEGETATION – Use scientific names of plants. Sampling Point: DP48 Absolute Dominant Indicator Tree Stratum (Plot size: 30 ft) % Cover Status **Dominance Test worksheet:** Species? 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 3 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 33.3% (A/B) Prevalence Index worksheet: 7. Multiply by: =Total Cover Total % Cover of: Sapling/Shrub Stratum (Plot size: 15 ft OBL species x 1 = Cornus racemosa FAC **FACW** species 0 x 2 = 0 10 2. FAC species x 3 = 30 77 3. FACU species x 4 = 308 4. UPL species 23 x 5 = 5. Column Totals: 110 453 Prevalence Index = B/A = 4.12 6. **Hydrophytic Vegetation Indicators:** 7. 5 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5 ft) 2 - Dominance Test is >50% 1. Solidago canadensis 40 Yes **FACU** 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations¹ (Provide supporting 2. 25 **FACU** Poa pratensis Yes data in Remarks or on a separate sheet) 3. Daucus carota 20 No UPL 4. Fragaria virginiana 10 No **FACU** Problematic Hydrophytic Vegetation¹ (Explain) 5 5. Symphyotrichum lateriflorum No FAC ¹Indicators of hydric soil and wetland hydrology must Crepis tectorum 3 UPL 6. No be present, unless disturbed or problematic. 2 7. Cirsium arvense No **FACU Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in 9. diameter at breast height (DBH), regardless of height. 10. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 105 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft Woody vines - All woody vines greater than 3.28 ft in 1. height.

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

Hydrophytic vegetation is not present. About 25 ft separates this sampling point from its paired wetland sampling point (DP47) with 2 ft change in elevation.

=Total Cover

Hydrophytic

Yes

Vegetation Present?

3.

No X

Depth	ription: (Describe t Matrix	o tne ae		ı ment τι κ Featur		ator or co	onfirm the absence of inc	icators.)			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	arks		
0-5	10YR 3/1	100					Loamy/Clayey				
5-12	10YR 4/2	100					Loamy/Clayey				
12-18	10YR 4/4	80	10YR 5/6	10		М	Loamy/Clayey	Distinct redox c	oncentrations		
			10YR 5/1	10	D	M					
¹Type: C=Co	oncentration, D=Depl	etion, RN	M=Reduced Matrix, M	IS=Mas	ked San	d Grains.	² Location: PL=P	ore Lining, M=M	atrix.		
Hydric Soil							Indicators for P	=			
Histosol (A1)			Dark Surface (S		(00) (2 cm Muck (A10) (LRR K, L, MLRA 1498 Coast Prairie Redox (A16) (LRR K, L, R)				
Black Hi	oipedon (A2)		Polyvalue Below		ce (58) (LKK K,			B) (LRR K, L, R)		
	n Sulfide (A4)		Thin Dark Surfa) (LRR R	, MLRA 1		elow Surface (S8			
	Layers (A5)		High Chroma S				· —	urface (S9) (LRR			
Depleted	d Below Dark Surface	(A11)	Loamy Mucky N	Mineral	(F1) (LR	RK,L)	Iron-Mangan	ese Masses (F1	2) (LRR K, L, R)		
Thick Da	ark Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmont Flo	oodplain Soils (F	19) (MLRA 149B)		
	oodic (A17)		Depleted Matrix	` '					utside MLRA 145)		
	A 144A, 145, 149B)		Redox Dark Su	,	•			/ Dark Surface (I	F22)		
	lucky Mineral (S1)		Depleted Dark				Other (Expla	in in Remarks)			
	edox (S5)		Redox Depress Marl (F10) (LRI		0)		³ Indicators of hydrophytic vegetation and				
	Matrix (S6)		Red Parent Ma	-	:21) (MI I	RA 145)	wetland hydrology must be present,				
	mank (66)			torial (i		U (1 10,	unless disturbed or problematic.				
	Layer (if observed):										
Type:											
Depth (ir	nches):						Hydric Soil Present?	Yes	No_X_		
Remarks: Hydric soils a	are not present. Does	s not mee	et hydric soils criteria.	Soils	verv hea	vv. clavev	v. poorly drained.				
Try dillo collo c	aro not procent. Book	, 1101 11100	A Try and cone criteria.	000	roly lloa	y, olayoy	, poorly diamod.				



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNAT	ΓΙΟΝΑL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 9/30/23		
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP49		
Investigator(s): Brauna Hartzell, Mead & Hun	t, Inc.	Section, Tow	vnship, Range: Section 3			
Landform (hillside, terrace, etc.): Drainagew	vay Local re	elief (concave, conve		Slope %: 1-2%		
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.541633	Datum: WGS84		
Soil Map Unit Name: Wainola-Deford fine sai			NWI classification:	N/A		
Are climatic / hydrologic conditions on the site		Yes	— No X (If no. 6	explain in Remarks.)		
Are Vegetation, Soil, or Hydrol			nal Circumstances" prese			
Are Vegetation , Soil , or Hydrol			, explain any answers in			
<u> </u>						
SUMMARY OF FINDINGS – Attach	site map snowing samp	pling point local	ions, transects, iiii	portant features, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea			
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No		
Wetland Hydrology Present?	Yes X No	If yes, optional Wet	tland Site ID: 18I			
Remarks: (Explain alternative procedures he						
An analysis of antecedent precipitation indica	tes that environmental condition	ons were wetter than	normal range. Data point	taken in drainageway.		
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)		
Primary Indicators (minimum of one is require	ed; check al <u>l that apply)</u>		Surface Soil Cracks			
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (I	, ,		
X High Water Table (A2)	Aquatic Fauna (B13)	,	Moss Trim Lines (B	•		
X Saturation (A3)	Marl Deposits (B15)	•	Dry-Season Water 1			
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows (C8)			
Sediment Deposits (B2)	Oxidized Rhizospheres of	on Living Roots (C3)	Saturation Visible or	n Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in	•				
Iron Deposits (B5)	Thin Muck Surface (C7)	•	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	(s)	Microtopographic Re	elief (D4)		
Sparsely Vegetated Concave Surface (Bi			X FAC-Neutral Test (D) 5)		
Field Observations:						
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes X	No Depth (inches):	12				
Saturation Present? Yes X	No Depth (inches):	0 Wetland	d Hydrology Present?	Yes X No		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, pre-	vious inspections), if a	available:			
Remarks: Wetland hydrology is present and indicated.	Standing water in drainageway	v about 10 feet to nor	th			
Welland Hydrology is present and indicated.	Stationing water in Graniageway	y about 10 lect to her	ui.			

VEGETATION -	Use	scientific	names	of	plants

/EGETATION – Use scientific names of pla	Sampling Point:	DP49					
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
Populus deltoides	50	Yes	FAC	Number of Dominant Species			
2				That Are OBL, FACW, or FAC:	5 (A)		
3		. <u></u>		Total Number of Dominant			
4				Species Across All Strata:	5 (B)		
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0% (A/B)		
7.		·		Prevalence Index worksheet:	(742)		
	50	=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15 ft)		-		OBL species 0 x 1 =	0		
1. Salix discolor	35	Yes	FACW	FACW species 95 x 2 =	190		
2.		·		FAC species 95 x 3 =	285		
3.				FACU species 5 x 4 =	20		
4.				UPL species 0 x 5 =	0		
5.				Column Totals: 195 (A)	495 (B)		
6.				Prevalence Index = B/A =	2.54		
7.				Hydrophytic Vegetation Indicators:			
	35	=Total Cover		1 - Rapid Test for Hydrophytic Ve	egetation		
Herb Stratum (Plot size: 5 ft)		-		X 2 - Dominance Test is >50%			
1. Phragmites australis	25	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹			
2. Poa palustris	25	Yes	FACW	4 - Morphological Adaptations (Provide supporting			
3. Equisetum hyemale	20	Yes	FAC	data in Remarks or on a separ	ate sheet)		
4. Solidago rugosa	15	No	FAC	Problematic Hydrophytic Vegetat	ion ¹ (Explain)		
5. Euthamia graminifolia	10	No	FAC	¹ Indicators of hydric soil and wetland	hydrology must		
6. Symphyotrichum ericoides	5	No	FACU	be present, unless disturbed or proble			
7. Symphyotrichum novae-angliae	5	No	FACW	Definitions of Vegetation Strata:			
8. Doellingeria umbellata	5	No	FACW	Tree – Woody plants 3 in. (7.6 cm) or	more in		
9				diameter at breast height (DBH), rega			
10				Sapling/shrub – Woody plants less t	han 3 in DBH		
11				and greater than or equal to 3.28 ft (1			
12	110	=Total Cover		Herb – All herbaceous (non-woody) pof size, and woody plants less than 3.			
Woody Vine Stratum (Plot size: 15 ft)	110	- Total Covel					
1				Woody vines – All woody vines grea height.	ter than 3.28 ft in		
2				Hydrophytic			
3				Hydrophytic Vegetation			
4				Present? Yes X No			
		=Total Cover					
Domarks: (Include abote numbers bere er en a cons	roto oboot \						

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

Hydrophytic vegetation is present. Purple loosestrife also present in drainageway along with Solidago ohioensis (OBL) along banks.

Depth	Matrix	ine de		x Featur		ator or co	onfirm the absence of	i muicators.		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0-4	10YR 3/1	100					Sandy			
4-14	10YR 5/1	98	10YR 5/6	2	С	M	Sandy	Prominent redox concentrations		
			101103/0					1 Tomment redox concentrations		
14-18	10YR 4/1	100					Sandy			
	oncentration, D=Deple	tion, RM	1=Reduced Matrix, N	์ ИS=Mas	ked San	d Grains.		L=Pore Lining, M=Matrix.		
Hydric Soil Indicators:			Danie Overfala /	(07)				or Problematic Hydric Soils ³ :		
			Dark Surface (Polyvalue Belo		00 (89) (I DD D		rairia Raday (A16) (LRR K. L. R.)		
			MLRA 149B		CE (30) (LKK K,		rairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R)		
	en Sulfide (A4)		Thin Dark Surf	,	(LRR R	. MLRA		e Below Surface (S8) (LRR K, L)		
	d Layers (A5)		X High Chroma S					k Surface (S9) (LRR K, L)		
	d Below Dark Surface	(A11)		pamy Mucky Mineral (F1) (LRR K, L)				nganese Masses (F12) (LRR K, L, R)		
Thick Da	ark Surface (A12)		Loamy Gleyed	Matrix ((F2)		Piedmon	nt Floodplain Soils (F19) (MLRA 149B)		
Mesic S	podic (A17)		Depleted Matri	x (F3)			Red Parent Material (F21) (outside MLRA 145)			
(MLR	A 144A, 145, 149B)		Redox Dark Su	urface (F	- 6)		Very Shallow Dark Surface (F22)			
	lucky Mineral (S1)		Depleted Dark				Other (Explain in Remarks)			
	Gleyed Matrix (S4)		Redox Depres		8)		3			
X Sandy F				arl (F10) (LRR K, L) ed Parent Material (F21) (MLRA 145)			³ Indicators of hydrophytic vegetation and			
Stripped	Matrix (S6)		Red Parent Ma	ateriai (F	·21) (IVILI	KA 145)	wetland hydrology must be present, unless disturbed or problematic.			
Restrictive	Layer (if observed):							alota. Dod of production		
Type:										
Depth (ii	nches):						Hydric Soil Preser	nt? Yes X No		
Remarks:							<u> </u>			
	are present. Hydric so	oil indicat	tors Sandy Redox (S5) and	High Chr	oma San	nds (S11) are satisfied.	No organic material observed in the		
•	_	naterial r	masking sand partic	les was	observe	d so does	not meet Depleted be	elow Dark Surface (A11) or Dark		
Surface (S7)).									



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNATION	ONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 9/30/23			
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP50			
Investigator(s): Brauna Hartzell, Mead & Hunt,	Inc.	Section, Tow	nship, Range: Section 3	, T5N, R16E			
Landform (hillside, terrace, etc.): Flat/terrace	Local re	elief (concave, convex		Slope %: 1-2%			
Subregion (LRR or MLRA): LRR L, MLRA 99		•	-82.541639	 Datum: WGS84			
Soil Map Unit Name: Wainola-Deford fine sand			NWI classification:	N/A			
Are climatic / hydrologic conditions on the site ty		Yes		explain in Remarks.)			
Are Vegetation, Soil, or Hydrolog			al Circumstances" prese				
			, explain any answers in				
Are Vegetation, Soil, or Hydrolog			•	•			
SUMMARY OF FINDINGS – Attach s	ite map showing samp	oling point locati	ons, transects, ım	portant features, etc.			
Hydrophytic Vegetation Present? Y	res No X	Is the Sampled Are	ea				
, , ,	res No X	within a Wetland?	Yes	No X			
Wetland Hydrology Present? Y	/es No X	If yes, optional Wetl	and Site ID:				
Remarks: (Explain alternative procedures here							
An analysis of antecedent precipitation indicate	es that environmental condition	ons were wetter than r	normal range.				
HYDROLOGY							
			O d Indicatora (m	in in your of the required)			
Wetland Hydrology Indicators:	de aback all that apply)	:		ninimum of two required)			
Primary Indicators (minimum of one is required Surface Water (A1)			Surface Soil Cracks Drainage Patterns (I	` '			
·	Water-Stained Leaves (B9	-	Drainage Patterns (I	·			
High Water Table (A2) Saturation (A3)	Aquatic Fauna (B13) Marl Deposits (B15)	-	Moss Trim Lines (B´ Dry-Season Water 1	•			
		-	Crayfish Burrows (C				
Water Marks (B1)	Hydrogen Sulfide Odor (C Oxidized Rhizospheres or	-	`	,			
Sediment Deposits (B2)	Presence of Reduced Iron	• • •	3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)				
Drift Deposits (B3)		_		· ·			
Algal Mat or Crust (B4) Iron Deposits (B5)	Recent Iron Reduction in Thin Muck Surface (C7)	Tilled Solis (Co)	Geomorphic Position (D2)				
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks	-	Shallow Aquitard (D3) Microtopographic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)		<u>-</u>	FAC-Neutral Test (, ,			
Field Observations:	<u> </u>			73)			
	No X Depth (inches):						
	No Depth (inches):	18					
	No Depth (inches):		I Hydrology Present?	Yes No X			
(includes capillary fringe)			Hydrology i resent.	16310			
Describe Recorded Data (stream gauge, monit	toring well, aerial photos, prev	vious inspections), if a	available:				
	, , , , , , , , , , , , , , , , , , ,	,,					
Remarks:							
Wetland hydrology is neither present nor indica	ated.						

VEGETATION – Use scientific names of plants. Sampling Point: DP50 Absolute Dominant Indicator <u>Tree Stratum</u> (Plot size: 30 ft) % Cover Species? Status **Dominance Test worksheet:** 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: (A) 3. **Total Number of Dominant** 4. Species Across All Strata: 5 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 20.0% (A/B) Prevalence Index worksheet: =Total Cover Multiply by: Total % Cover of: Sapling/Shrub Stratum (Plot size: 15 ft OBL species x 1 = **FACW** species 12 x 2 = 2. FAC species 23 x 3 = 69 3. FACU species 85 x 4 = 340 4. UPL species 0 x 5 = 0 5. Column Totals: 120 433 Prevalence Index = B/A = 3.61 6. **Hydrophytic Vegetation Indicators:** 7. 1 - Rapid Test for Hydrophytic Vegetation =Total Cover 2 - Dominance Test is >50% Herb Stratum (Plot size: Symphyotrichum ericoides 20 Yes **FACU** 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations¹ (Provide supporting 2. 20 **FACU** Solidago canadensis Yes data in Remarks or on a separate sheet) 3. Fragaria virginiana 20 Yes **FACU** 4. Euthamia graminifolia 20 Yes FAC Problematic Hydrophytic Vegetation¹ (Explain) 5. Poa pratensis 20 Yes **FACU** ¹Indicators of hydric soil and wetland hydrology must Phragmites australis 5 6. Nο **FACW** be present, unless disturbed or problematic. 5 7. Trifolium pratense No **FACU Definitions of Vegetation Strata:** 3 8. Salix interior No **FACW** Tree - Woody plants 3 in. (7.6 cm) or more in 9. Equisetum hyemale 3 No FAC diameter at breast height (DBH), regardless of height. Symphyotrichum novae-angliae 2 No **FACW** Sapling/shrub - Woody plants less than 3 in. DBH 2 No 11. Symphyotrichum lanceolatum **FACW** and greater than or equal to 3.28 ft (1 m) tall. 12. Herb - All herbaceous (non-woody) plants, regardless 120 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 15 ft) Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes __ Present? No X =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic vegetation is not present. Willow is <1m tall.

Profile Desc Depth	ription: (Describe the Matrix	to the de		ument th x Featur		ator or co	onfirm the absence o	f indicate	ors.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	·ks
0-16	10YR 3/1	100	,				Loamy/Clayey			
16-22	10YR 4/1	100				<u> </u>	Sandy			
10-22	1011(4/1	100					Garidy			
1- 0.0							2, ,,			
	oncentration, D=Depl	letion, RN	M=Reduced Matrix, N	ิ์ dS=Mas	ked San	d Grains.	² Location: F			
Hydric Soil I Histosol			Dark Surface ((\$7)					-	MLRA 149B)
			Polyvalue Belo		ce (S8) (LRR R.			lox (A16) (LF	•
Black Histic (A3) MLRA 149B)			,				(LRR K, L, R)			
	n Sulfide (A4)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1		-	Surface (S8)	
Stratified	Layers (A5)		High Chroma S	Sands (S	311) (LRI	R K, L)	Thin Da	rk Surface	e (S9) (LRR	K, L)
Depleted	Below Dark Surface	e (A11)	Loamy Mucky	Mineral ((F1) (LR I	R K, L)	Iron-Mai	nganese I	Masses (F12	(LRR K, L, R)
	rk Surface (A12)		Loamy Gleyed		F2)				-	9) (MLRA 149B)
	oodic (A17)		Depleted Matri		-0)					itside MLRA 145)
	A 144A, 145, 149B) lucky Mineral (S1)		Redox Dark Some Depleted Dark	-	-				k Surface (F Remarks)	22)
	leyed Matrix (S4)		Redox Depres				Other (E	.хріант ін	ixemaiks)	
	edox (S5)		Marl (F10) (LR		0)		³ Indicators of hydrophytic vegetation and			
	Matrix (S6)		Red Parent Ma		21) (MLF	RA 145)	wetland hydrology must be present,			
							unless	s disturbe	d or problem	atic.
Restrictive L	ayer (if observed):									
Type:										
Depth (in	nches):						Hydric Soil Prese	nt?	Yes	No X
Remarks:										
Hydric soils a	are not present. Does	s not mee	et hydric soils criteria	۱.						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNATIONAL	L AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/1/23		
Applicant/Owner: St. Clair County		-	State: MI	Sampling Point: DP51		
Investigator(s): Brauna Hartzell, Mead & Hunt, Inc.		Section, Tov	wnship, Range: Section 3	, T5N, R16E		
Landform (hillside, terrace, etc.): Depression	Local re	elief (concave, conve		Slope %: <1%		
	Lat: 42.895057		-82.545658	Datum: WGS84		
Soil Map Unit Name: Rousseau fine sand, 0 to 6 pe						
Are climatic / hydrologic conditions on the site typical		Yes		explain in Remarks.)		
	•		<u> </u>			
Are Vegetation, Soil, or Hydrology			nal Circumstances" prese			
Are Vegetation, Soil, or Hydrology			I, explain any answers in			
SUMMARY OF FINDINGS – Attach site n	nap showing samp	oling point locat	ions, transects, im	portant features, etc.		
Hydrophytic Vegetation Present? Yes	X No	Is the Sampled Ar	7 02			
Hydric Soil Present? Yes		within a Wetland?		No		
	X No	If yes, optional We				
Remarks: (Explain alternative procedures here or in	n a separate report.)					
An analysis of antecedent precipitation indicates that		ons were wetter than	normal range.			
_						
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)		
Primary Indicators (minimum of one is required; che	eck all that apply)		Surface Soil Cracks	(B6)		
Surface Water (A1)	Water-Stained Leaves (BS	9)	Drainage Patterns (E	B10)		
X High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B1	16)		
X Saturation (A3)	Marl Deposits (B15)		Dry-Season Water T	Γable (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C) 1)	Crayfish Burrows (C	(8)		
	Oxidized Rhizospheres or	=		n Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Stressed Plants (D1)			
 -	Recent Iron Reduction in ³	Tilled Soils (C6)	s (C6) X Geomorphic Position (D2)			
	Thin Muck Surface (C7)		Shallow Aquitard (D			
	Other (Explain in Remarks	s)	Microtopographic Re			
Sparsely Vegetated Concave Surface (B8)			X FAC-Neutral Test (D)5)		
Field Observations:	_					
	X Depth (inches):					
	Depth (inches):					
Saturation Present? Yes X No _	Depth (inches):	0 Wetland	d Hydrology Present?	Yes <u>X</u> No		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring	ب well, aerial photos, prev	ious inspections), if	available:			
Remarks:						
Wetland hydrology is present and indicated. Standir	ng water within shrub sar	mnling area to about	3-4in			
Wollding Hydrology to proceed and marsares.	19 Water With 5 22 22	ilbining aroa to access	O 4111.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
Populus tremuloides	35	Yes	FAC				
2. Salix nigra	20	Yes	OBL	Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)			
3. Prunus serotina	10	No	FACU	Total Number of Demisers			
4. Betula papyrifera	10	No	FACU	Total Number of Dominant Species Across All Strata: 6 (B)			
5.				Percent of Dominant Species			
6.				That Are OBL, FACW, or FAC: 83.3% (A/B)			
7.				Prevalence Index worksheet:			
	75	=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species80 x 1 =80			
1. Salix nigra	60	Yes	OBL	FACW species 67 x 2 = 134			
2. Cornus racemosa	5	No	FAC	FAC species 50 x 3 = 150			
3. Alnus incana	5	No	FACW	FACU species 58 x 4 = 232			
4.				UPL species0 x 5 =0			
5				Column Totals: 255 (A) 596 (B)			
6.			1	Prevalence Index = B/A = 2.34			
7				Hydrophytic Vegetation Indicators:			
	70	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%			
1. Poa pratensis	38	Yes	FACU	X 3 - Prevalence Index is ≤3.0 ¹			
2. Doellingeria umbellata	30	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting			
3. Onoclea sensibilis	15	No	FACW	data in Remarks or on a separate sheet)			
4. Solidago gigantea	10	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)			
5. Symphyotrichum lanceolatum	5	No	FACW	¹ Indicators of hydric soil and wetland hydrology must			
6. Equisetum pratense	2	No	FACW	be present, unless disturbed or problematic.			
7				Definitions of Vegetation Strata:			
8				Tree – Woody plants 3 in. (7.6 cm) or more in			
9				diameter at breast height (DBH), regardless of height.			
10				Sapling/shrub – Woody plants less than 3 in. DBH			
11				and greater than or equal to 3.28 ft (1 m) tall.			
12				Herb – All herbaceous (non-woody) plants, regardless			
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.			
Woody Vine Stratum (Plot size:15 ft)				Woody vines – All woody vines greater than 3.28 ft in			
1. Vitis riparia	10	Yes	FAC	height.			
2				Hydrophytic			
3				Vegetation			
4				Present? Yes X No No			
	10	=Total Cover					
Domarka: (Include photo numbero bero er en a cons	rata abaat \						

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

Hydrophytic vegetation is present. Phragmites and Iris virginica within shrubs to east.

Sampling Point: DP51

Depth	Matrix	o tile de	-	x Featur		ator or co	onfirm the absence of ir	idicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0-2	10YR 3/2	100					Loamy/Clayey			
2-10	10YR 5/1	100					Loamy/Clayey			
10-12	10YR 2/1	100					Mucky Sand			
12-18	10YR 5/3	95	10YR 5/8	5	С	M	Sandy	Prominent redox con	centrations	
¹Type: C=Cc	oncentration, D=Deple	etion, RN	√=Reduced Matrix, №	 1S=Mas		d Grains.		Pore Lining, M=Matrix Problematic Hydric \$		
-	Histosol (A1) Dark Surface (S7)							(A10) (LRR K, L, ML		
Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R				LRR R,		rie Redox (A16) (LRR				
Black Histic (A3) MLRA 149B)				5 cm Muck	y Peat or Peat (S3) (L	RR K, L, R)				
	n Sulfide (A4)		Thin Dark Surfa					Below Surface (S8) (L		
	Layers (A5)		High Chroma S					Surface (S9) (LRR K,		
	Below Dark Surface	(A11)	Loamy Mucky N			RK,L)		anese Masses (F12) (I		
	irk Surface (A12)		Loamy Gleyed		(F2)			Floodplain Soils (F19)		
	oodic (A17)		X Depleted Matrix		-6)			t Material (F21) (outsi		
	A 144A, 145, 149B) lucky Mineral (S1)		Redox Dark Su Depleted Dark					ow Dark Surface (F22) Iain in Remarks))	
	leyed Matrix (S4)		Redox Depress				Other (Exp	alli ili Nelliaiks)		
	edox (S5)		Marl (F10) (LRI		0)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
	Matrix (S6)		Red Parent Ma		21) (MLI	RA 145)				
Restrictive L	_ayer (if observed):									
Type:										
Depth (in	nches):						Hydric Soil Present?	? Yes <u>X</u>	No	
Remarks: Hydric soils a	are present. Hydric so	oil indica	utors Depleted Below	Dark S	urface (A	\11) and [Depleted Matrix (F3) are	satisfied.		



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNA	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/1/23		
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP52		
Investigator(s): Brauna Hartzell, Mead & Hun	nt, Inc.	Section, Tow	vnship, Range: Section 3	, T5N, R16E		
Landform (hillside, terrace, etc.): Flat/terrac	ce Local re	elief (concave, convex	·	Slope %: 1%		
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.54572	Datum: WGS84		
Soil Map Unit Name: Rousseau fine sand, 0						
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)		
, ,	,,					
Are Vegetation, Soil, or Hydro	<u></u>		al Circumstances" prese			
Are Vegetation, Soil, or Hydro			, explain any answers in			
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point locati	ions, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Are	<u></u>			
Hydric Soil Present?	Yes No X	within a Wetland?		No X		
Wetland Hydrology Present?	Yes No X	If yes, optional Wet				
Remarks: (Explain alternative procedures he	ere or in a separate report.)					
An analysis of antecedent precipitation indica		ons were wetter than r	normal range. Data point	taken on an upland island;		
shrubs on east side and tree-dominated on w	vest side.					
HYDROLOGY						
Wetland Hydrology Indicators:	11 41 4 - mm h A			ninimum of two required)		
Primary Indicators (minimum of one is require	* * * * * * * * * * * * * * * * * * * *		Surface Soil Cracks	` '		
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns (I	·		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)				
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water 1			
Water Marks (B1)	Hydrogen Sulfide Odor (0	-	Crayfish Burrows (C			
Sediment Deposits (B2)	Oxidized Rhizospheres o			n Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iro	` ′	Stunted or Stressed			
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position			
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D			
Inundation Visible on Aerial Imagery (B7	·— · · ·	ks)	Microtopographic Re			
Sparsely Vegetated Concave Surface (B	i8)	<u> </u>	FAC-Neutral Test (D)5)		
Field Observations:			_			
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes No X		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, pre-	vious inspections), if a	available:			
Demonstrat						
Remarks: Wetland hydrology is neither present nor indi	icated					
Wettand flydrology to flottile. procent fie	cated.					

VEGETATION –	Use	scientific	names	of	plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
Populus deltoides	40	Yes	FAC	
Betula papyrifera	10	Yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
3.				,
4.				Total Number of Dominant Species Across All Strata: 8 (B)
5.				
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 37.5% (A/B)
7.				Prevalence Index worksheet:
	50	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)		_		OBL species 10 x 1 = 10
1. Elaeagnus umbellata	10	Yes	UPL	FACW species 28 x 2 = 56
2. Rosa multiflora	10	Yes	FACU	FAC species 60 x 3 = 180
3. Salix nigra	10	Yes	OBL	FACU species 75 x 4 = 300
4.				UPL species 12 x 5 = 60
5.				Column Totals: 185 (A) 606 (B)
6.				Prevalence Index = B/A = 3.28
7.				Hydrophytic Vegetation Indicators:
	30	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5 ft)				2 - Dominance Test is >50%
1. Poa pratensis	50	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
2. Solidago rugosa	20	Yes	FAC	4 - Morphological Adaptations (Provide supporting
3. Solidago gigantea	10	No	FACW	data in Remarks or on a separate sheet)
4. Doellingeria umbellata	10	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Symphyotrichum lanceolatum	5	No	FACW	¹ Indicators of hydric soil and wetland hydrology must
6. Symphyotrichum novae-angliae	3	No	FACW	be present, unless disturbed or problematic.
7. Asclepias syriaca	2	No	UPL	Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12			1	Herb – All herbaceous (non-woody) plants, regardless
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:15 ft)				Woody vines – All woody vines greater than 3.28 ft in
Parthenocissus quinquefolia	5	Yes	FACU	height.
2				
3				Hydrophytic Vegetation
4				Present? Yes No X
	5	=Total Cover	_	
Remarks: (Include photo numbers here or on a sepa	rate sheet)			•

Hydrophytic vegetation is not present. About 15 ft separates this sampling point from its paired wetland sampling point (DP51) with 2 ft change in elevation.

Sampling Point: DP52

Depth	cription: (Describe t Matrix	to the de	•	ıment ti x Featur		ator or co	onfirm the absence o	f indicato	rs.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	rks
0-4	10YR 3/2	100					Loamy/Clayey			
4-14	10YR 4/2	99	10YR 5/6	1	С	М	Loamy/Clayey	Promii	nent redox o	concentrations
14-22	10YR 4/1	100					Sandy			
										_
	-									
-	oncentration, D=Depl	etion, RN	/I=Reduced Matrix, M	1S=Mas	ked San	d Grains.	² Location: P			
Hydric Soil Histosol			Dark Surface (S	97)			Indicators fo		_	ic Soils": MLRA 149B)
	oipedon (A2)		Polyvalue Belo		ce (S8) (LRR R.			ox (A16) (LF	
Black Hi			MLRA 149B)		(00) () (LRR K, L, R)
Hydroge	en Sulfide (A4)		Thin Dark Surfa	ace (S9) (LRR R	, MLRA 1		-		(LRR K, L)
Stratified	d Layers (A5)		High Chroma S	Sands (S	611) (LR I	R K, L)	Thin Dar	k Surface	(S9) (LRR	K, L)
Depleted	d Below Dark Surface	e (A11)	Loamy Mucky I	Mineral	(F1) (LR	RK, L)	Iron-Mar	nganese M	lasses (F12	2) (LRR K, L, R)
Thick Da	ark Surface (A12)		Loamy Gleyed	Matrix ((F2)		Piedmor	nt Floodpla	ain Soils (F1	19) (MLRA 149B)
	podic (A17)		Depleted Matrix							ıtside MLRA 145)
	RA 144A, 145, 149B)		Redox Dark Su	•	•				Surface (F	22)
	Mucky Mineral (S1)		Depleted Dark				Other (E	xplain in F	Remarks)	
	Gleyed Matrix (S4)		Redox Depress		8)		3, ,, ,			
	Redox (S5)		Marl (F10) (LRI		. O.4.\ /B#L I	DA 445)		-	ophytic vege	
Suipped	Matrix (S6)		Red Parent Ma	lenai (F	'21) (IVILI	XA 145)		-	gy must be plained by the ground of the ground termination of the grou	•
Restrictive	Layer (if observed):						u555		p	
Type:										
Depth (ii	nches):						Hydric Soil Presei	nt?	Yes	No X
Remarks:	_									
Hydric soils	are not present. Does	s not mee	t hydric soils criteria.	•						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNATION	TIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/1/23		
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP53		
Investigator(s): Brauna Hartzell, Mead & Hun	it, Inc.	Section, Tov	vnship, Range: Section 3	B, T5N, R16E		
Landform (hillside, terrace, etc.): Depressio	n Local re	elief (concave, conve	x, none): Concave	Slope %: <1%		
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.546697	Datum: WGS84		
Soil Map Unit Name: Allendale-Latty complex			NWI classification:	N/A		
		Yes		explain in Remarks.)		
Are climatic / hydrologic conditions on the site		-				
Are Vegetation, Soil, or Hydrol			nal Circumstances" prese			
Are Vegetation, Soil, or Hydrol	· · · · · · · · · · · · · · · · · · ·		, explain any answers in			
SUMMARY OF FINDINGS – Attach	site map showing samp	oling point locat	ions, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea			
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No		
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: 35B			
Remarks: (Explain alternative procedures he An analysis of antecedent precipitation indica the west likely impacts internal drainage of the	ates that environmental conditio	ins were wetter than	normal range. A deep di	tch approximately 175 ft to		
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators (n	ninimum of two required)		
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks	s (B6)		
Surface Water (A1)	X Water-Stained Leaves (BS					
X High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)				
X Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (C	·		
Sediment Deposits (B2)	Oxidized Rhizospheres or			n Aerial Imagery (C9)		
Drift Deposits (B3) Algal Mat or Crust (B4)	Presence of Reduced Iron Recent Iron Reduction in	` ,	X Geomorphic Position			
Iron Deposits (B5)	Thin Muck Surface (C7)	Tilled Solis (Co)	Shallow Aquitard (D			
Inundation Visible on Aerial Imagery (B7)		(s)	Microtopographic R	•		
Sparsely Vegetated Concave Surface (B		5 ,	X FAC-Neutral Test (I			
Field Observations:			<u></u> - ,	/		
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes X	No Depth (inches):	6				
Saturation Present? Yes X	No Depth (inches):	0 Wetlan	d Hydrology Present?	Yes X No		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, prev	vious inspections), if	available:			
Remarks: Wetland hydrology is present and indicated. \$	Standing water nearby to about	t 1-2 in. Water-staine	d leaves throughout.			

VEGETATION -	Use scientific names	of plants
VEGETATION -	Use scientific names	oi biants

/EGETATION – Use scientific names of pla	ints.			Sampling Point:	DP53
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Acer rubrum	80	Yes	FAC	Number of Dominant Species	
2. Acer saccharinum	10	<u>No</u>	FACW	That Are OBL, FACW, or FAC:	4 (A)
3				Total Number of Dominant	
4.				Species Across All Strata:	6 (B)
5 6.		·		Percent of Dominant Species That Are OBL, FACW, or FAC:	66.7% (A/B)
7.				Prevalence Index worksheet:	
	90	=Total Cover		Total % Cover of: Mu	ultiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)		•		OBL species 25 x 1 =	25
1. Prunus serotina	5	Yes	FACU	FACW species 60 x 2 =	120
2. Hamamelis virginiana	2	Yes	FACU	FAC species 80 x 3 =	240
3.				FACU species 7 x 4 =	28
4.				UPL species 0 x 5 =	0
5.				Column Totals: 172 (A)	413 (B)
6.				Prevalence Index = B/A =	2.40
7.				Hydrophytic Vegetation Indicators:	
	7	=Total Cover		1 - Rapid Test for Hydrophytic Ve	
Herb Stratum (Plot size: 5 ft)		•		X 2 - Dominance Test is >50%	
1. Glyceria striata	25	Yes	OBL	X 3 - Prevalence Index is ≤3.0 ¹	
2. Onoclea sensibilis	20	Yes	FACW	4 - Morphological Adaptations (P	rovide supporting
3. Carex intumescens	20	Yes	FACW	data in Remarks or on a separa	ate sheet)
4. Laportea canadensis	5	No	FACW	Problematic Hydrophytic Vegetati	on ¹ (Explain)
Fraxinus pennsylvanica 6.	5	<u>No</u>	FACW	¹ Indicators of hydric soil and wetland he present, unless disturbed or proble	
7.				Definitions of Vegetation Strata:	
8				Tree – Woody plants 3 in. (7.6 cm) or	more in
9				diameter at breast height (DBH), rega	
10				Sapling/shrub – Woody plants less th	nan 3 in. DBH
11				and greater than or equal to 3.28 ft (1	
12	75	=Total Cover		Herb – All herbaceous (non-woody) p of size, and woody plants less than 3.3	
Woody Vine Stratum (Plot size:15 ft) 1.				Woody vines – All woody vines great height.	er than 3.28 ft in
2				Lludranhutia	
3				Hydrophytic Vegetation	
4				Present? Yes X No	
		=Total Cover			
Pomarka: (Include abete numbere bere er en a cons	roto oboot)				

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation is present. Dead cottonwood (topped) is not included in cover calculations. Paper wasp nest observed.

Depth	Matrix	-		x Featur			onfirm the absence o	,
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 2/1	100					Mucky Sand	
4-21	10YR 5/1	100	_				Sandy	
21-24	10YR 5/1	95	7.5YR 5/6	5	С	M	Sandy	Prominent redox concentrations
							- Carrey	
							_	
	·							
	oncentration, D=Depl	etion, RM	=Reduced Matrix, N	/IS=Mas	ked San	d Grains.		PL=Pore Lining, M=Matrix.
Hydric Soil Histosol			X Dark Surface (S7)				for Problematic Hydric Soils ³ : uck (A10) (LRR K, L, MLRA 149B)
	ipedon (A2)		Polyvalue Belo	,	ce (S8) (LRR R,		rairie Redox (A16) (LRR K, L, R)
Black His	stic (A3)		MLRA 149B)			5 cm Mu	ucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surfa					ue Below Surface (S8) (LRR K, L)
	Layers (A5)	(4.4.1)	High Chroma S					rk Surface (S9) (LRR K, L)
	Below Dark Surface	e (A11)	Loamy Mucky I			RK,L)		nganese Masses (F12) (LRR K, L, R)
	ork Surface (A12) oodic (A17)		Loamy Gleyed Depleted Matri		F2)			nt Floodplain Soils (F19) (MLRA 149B) rent Material (F21) (outside MLRA 145]
	A 144A, 145, 149B)		Redox Dark Su		6)			allow Dark Surface (F22)
	lucky Mineral (S1)		Depleted Dark					Explain in Remarks)
Sandy G	leyed Matrix (S4)		Redox Depress	sions (F	3)			
Sandy R	edox (S5)		Marl (F10) (LR	R K , L)			³ Indicato	ors of hydrophytic vegetation and
	cdox (co)			4				
Stripped	Matrix (S6)		Red Parent Ma	iteriai (F	21) (MLF	RA 145)		nd hydrology must be present,
	Matrix (S6)		Red Parent Ma	iteriai (F	21) (MLF	RA 145)		nd hydrology must be present, s disturbed or problematic.
	, ,		Red Parent Ma	iteriai (F	21) (MLF	RA 145)		
Restrictive I	Matrix (S6) _ayer (if observed):		Red Parent Ma	iteriai (F	21) (MLF	RA 145)		s disturbed or problematic.
Restrictive I	Matrix (S6) _ayer (if observed):		Red Parent Ma	iteriai (F	21) (MLF	RA 145)	unles	s disturbed or problematic.
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic.
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic. nt? Yes X No
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic. nt? Yes X No
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic. nt? Yes X No
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic. nt? Yes X No
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic. nt? Yes X No
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic. nt? Yes X No
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic. nt? Yes X No
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic. nt? Yes X No
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic. nt? Yes X No
Restrictive I Type: Depth (in	Matrix (S6) Layer (if observed):	oil indicat					unless Hydric Soil Prese	s disturbed or problematic. nt? Yes X No



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNATION	ONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/3/23		
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP54		
Investigator(s): Brauna Hartzell, Mead & Hunt,	Inc.	Section, Tow	vnship, Range: Section 3	, T5N, R16E		
Landform (hillside, terrace, etc.): Midslope	Local re	elief (concave, convex		Slope %: 3-5%		
Subregion (LRR or MLRA): LRR L, MLRA 99			-82.546647	Datum: WGS84		
Soil Map Unit Name: Allendale-Latty complex,			NWI classification:	N/A		
Are climatic / hydrologic conditions on the site ty		Yes		explain in Remarks.)		
Are Vegetation, Soil, or Hydrolog			al Circumstances" prese			
<u> </u>						
Are Vegetation, Soil, or Hydrolog			, explain any answers in	•		
SUMMARY OF FINDINGS – Attach si	ite map showing samp	oling point locat	ions, transects, im	portant features, etc.		
Hydrophytic Vegetation Present? Y	res No X	Is the Sampled Ar	ea			
, , , ,	/es No X	within a Wetland?		No X		
	/es No X	If yes, optional Wet	land Site ID:			
Remarks: (Explain alternative procedures here	e or in a separate report.)					
An analysis of antecedent precipitation indicate	es that environmental condition	ons were wetter than i	normal range.			
HYDROLOGY						
Wetland Hydrology Indicators:	the state of the s			ninimum of two required)		
Primary Indicators (minimum of one is required			Surface Soil Cracks	` '		
Surface Water (A1)	Water-Stained Leaves (B9					
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)				
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C					
Sediment Deposits (B2)	Oxidized Rhizospheres or	• , ,		n Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stressed	` '		
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position			
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D			
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks	.s)	Microtopographic Re	, ,		
Sparsely Vegetated Concave Surface (B8))		FAC-Neutral Test (D	D5)		
Field Observations:	Secretary (Secretary)					
Surface Water Present? Yes	No X Depth (inches): Depth (inches):					
Water Table Present? Yes	No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes No_X_		
(includes capillary fringe)	' '" nhotoo nrov	' · · · · · · · · · · · · · · · · · · ·	9 - 1-1			
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, prev	/ious inspections), ii a	avallable:			
Remarks:						
Wetland hydrology is neither present nor indica	ated.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Hamamelis virginiana	35	Yes	FACU	
2. Acer rubrum	30	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
3. Prunus serotina	10	No	FACU	Total Number of Dominant
4. Betula papyrifera	5	No	FACU	Species Across All Strata: 5 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 20.0% (A/B)
7				Prevalence Index worksheet:
	80	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:15 ft)				OBL species 0 x 1 = 0
Hamamelis virginiana	10	Yes	FACU	FACW species 2 x 2 = 4
2. Fraxinus pennsylvanica	2	No	FACW	FAC species30 x 3 =90
3				FACU species 67 x 4 = 268
4				UPL species 0 x 5 = 0
5				Column Totals: 99 (A) 362 (B)
6.				Prevalence Index = B/A = 3.66
7				Hydrophytic Vegetation Indicators:
	12	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5 ft)				2 - Dominance Test is >50%
1. Maianthemum canadense	5	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
2. Hamamelis virginiana	2	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporting
3				data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12	7	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 15 ft)		- Total Cover		
1				Woody vines – All woody vines greater than 3.28 ft in height.
2.				
3.				Hydrophytic Vegetation
4.				Present? Yes No X
		=Total Cover		
	•	-	-	-

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

Hydrophytic vegetation is not present. Witch-hazel in herbaceous layer shoots and in shrub layer < 1m tall. About 18 ft separates this sampling point from its paired wetland sampling point (DP53) with 1 -2 ft change in elevation. Little herbaceous cover due to leaf litter and shade.

Sampling Point:

DP54

Profile Desc Depth	ription: (Describe t Matrix	to the de		ıment tl x Featur		ator or co	onfirm the absence of ind	icators.)	
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Rema	arks
0-4	10YR 2/1	100					Loamy/Clayey		
4-6	10YR 4/1	100					Sandy		
6-14	7.5YR 3/4	100					Sandy		
14-21	10YR 5/6	100					Sandy		
¹Type: C=Cd	ncentration D=Denl	etion RN	 ∕/=Reduced Matrix, M	 IS=Mas	ked San	d Grains	² Location: PL=P	ore Lining M=M	atrix
Hydric Soil	•	Cuon, rui	1-reduced Matrix, IV	IO-IVIGS	RCG Gain	d Orallis.	Indicators for Pi		
Histosol	(A1)		Dark Surface (S7)				410) (LRR K, L ,	
Histic Ep	pipedon (A2)		Polyvalue Belo	w Surfa	ce (S8) (LRR R,	Coast Prairie	Redox (A16) (L	.RR K, L, R)
Black Hi	stic (A3)		MLRA 149B)	,				Peat or Peat (S	3) (LRR K, L, R)
Hydroge	n Sulfide (A4)		Thin Dark Surfa				Polyvalue Be	elow Surface (S8	B) (LRR K, L)
	I Layers (A5)		High Chroma S	-				ırface (S9) (LRR	·
	Below Dark Surface	e (A11)	Loamy Mucky I			R K, L)		•	2) (LRR K, L, R)
	ark Surface (A12)		Loamy Gleyed		,F2)				19) (MLRA 149B)
	oodic (A17)		Depleted Matrix		-0)				utside MLRA 145)
	A 144A, 145, 149B)		Redox Dark Su	•	•			/ Dark Surface (I	F22)
	lucky Mineral (S1)		Depleted Dark				Other (Expla	in in Remarks)	
	edox (S5)		Redox Depress Marl (F10) (LRI		0)		³ Indicators of	f hydrophytic veg	notation and
	Matrix (S6)		Red Parent Ma		:21) (M) [PA 145)		drology must be	
Otripped	Matrix (30)		Red Falentina	iteriai (i	21) (WILI	XA 143)	•	urbed or probler	•
	_ayer (if observed):								
Type:	nches):						Hydric Soil Present?	Yes	No X
Remarks:							Tryunc 3011 Fresent:		<u></u>
	are not present. Does	s not mee	et hydric soils criteria.						



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNATIONAL AIRPORT (PHN)	City/County: St Clair Sampling Date: 10/3/23			
Applicant/Owner: St. Clair County	State: MI Sampling Point: DP55			
Investigator(s): Brauna Hartzell, Mead & Hunt, Inc.	Section, Township, Range: Section 3, T5N, R16E			
Landform (hillside, terrace, etc.): Depression Loc	cal relief (concave, convex, none): Concave Slope %: <1			
Subregion (LRR or MLRA): LRR L, MLRA 99 Lat: 42.890789	Long: -82.546368 Datum: WGS84			
Soil Map Unit Name: Allendale-Latty complex, 0 to 3 percent slopes (Al				
Are climatic / hydrologic conditions on the site typical for this time of year				
Are Vegetation , Soil , or Hydrology X significantly dis				
Are Vegetation, Soil, or Hydrologynaturally proble				
SUMMARY OF FINDINGS – Attach site map showing sa	ampling 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: 31			
Remarks: (Explain alternative procedures here or in a separate report.)				
An analysis of antecedent precipitation indicates that environmental cor internal drainage in these sandy soils.	nditions were wetter than normal range. Drain/ditch to west has impacted			
midrial diamage in mose same, some				
HYDROLOGY				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)			
Surface Water (A1) Water-Stained Leave	B9) Drainage Patterns (B10)			
X High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)			
X Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)			
Water Marks (B1) Hydrogen Sulfide Od	or (C1) Crayfish Burrows (C8)			
	es on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3) Presence of Reduced	· /			
Algal Mat or Crust (B4)Recent Iron Reduction	· · · · · · · · · · · · · · · · · · ·			
Iron Deposits (B5)Thin Muck Surface (C				
Inundation Visible on Aerial Imagery (B7)Other (Explain in Rer				
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)			
Field Observations:				
Surface Water Present? Yes No X Depth (inche				
Water Table Present? Yes X No Depth (inche	· ·			
Saturation Present? Yes X No Depth (inche	es): 0 Wetland Hydrology Present? Yes X No			
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:			
Remarks:				
	d; standing water in pockets to west toward ditch. Ditch impacts internal			
drainage.	-,			

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	80	Yes	FAC	Number of Dominant Species
2. Ulmus americana	5	No	FACW	That Are OBL, FACW, or FAC:4 (A)
3. Quercus rubra	5	No	FACU	Total Number of Dominant
4. Fraxinus pennsylvanica	3	No	FACW	Species Across All Strata: 5 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 80.0% (A/B)
7				Prevalence Index worksheet:
	93	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species0 x 1 =0
1. Prunus serotina	15	Yes	FACU	FACW species 36 x 2 = 72
2. Fraxinus pennsylvanica	15	Yes	FACW	FAC species107 x 3 =321
3				FACU species 20 x 4 = 80
4				UPL species0 x 5 =0
5				Column Totals: 163 (A) 473 (B)
6.				Prevalence Index = B/A = 2.90
7.				Hydrophytic Vegetation Indicators:
	30	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5 ft)				X 2 - Dominance Test is >50%
1. Solidago rugosa	25	Yes	FAC	X 3 - Prevalence Index is ≤3.0 ¹
2. <u>Doellingeria umbellata</u>	10	Yes	FACW	4 - Morphological Adaptations (Provide supporting
3. Fraxinus pennsylvanica	3	No	FACW	data in Remarks or on a separate sheet)
4. Toxicodendron rydbergii	2	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
5.				¹ Indicators of hydric soil and wetland hydrology must
6.				be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in. (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10.				Sanling/shrub Woody plants loss than 3 in DRH
11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.				Harb All barbassaus (non woody) plants, regardless
	40	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 15 ft)				Manda di caina All con di caina a manda di da 2 20 fi in
1.				Woody vines – All woody vines greater than 3.28 ft in height.
2.				
3.				Hydrophytic
4.				Vegetation Present? Yes X No
		=Total Cover		

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

Hydrophytic vegetation is present. Little herbaceous cover due to shade and leaf litter, royal fern in tree sampling area.

Sampling Point: DP55

Profile Desc Depth	ription: (Describe t Matrix	to the de	-	ument th x Featur		ator or co	onfirm the absence of indicators.)	
(inches)	Color (moist)	%	Color (moist)	% / Catar	Type ¹	Loc ²	Texture Remarks	
0-7	10YR 3/1	100					Mucky Sand	
7-17	10YR 6/1	100					Sandy	
17-20	7.5YR 5/6	100					Sandy	
17 20	7.01110/0	100					Curray	
			·					—
	-		-				·	—
								_
							·	—
	-		-				·	
							·	
¹ Type: C=Co	oncentration, D=Depl	etion, RI	л=Reduced Matrix, N	์ MS=Mas	ked San	d Grains.	² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil I							Indicators for Problematic Hydric Soils ³ :	
Histosol			X Dark Surface ((00) (2 cm Muck (A10) (LRR K, L, MLRA 149B)	
Black His	ipedon (A2)		Polyvalue Belo		ce (S8) (I	LKK K,	Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, F	> \
	n Sulfide (A4)		Thin Dark Surf	,	(LRR R	. MLRA 1		٠)
	Layers (A5)		High Chroma S				Thin Dark Surface (S9) (LRR K, L)	
	Below Dark Surface	(A11)	Loamy Mucky				Iron-Manganese Masses (F12) (LRR K, L, I	₹)
Thick Da	rk Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmont Floodplain Soils (F19) (MLRA 14	9B)
	oodic (A17)		Depleted Matri				Red Parent Material (F21) (outside MLRA	145)
	A 144A, 145, 149B)		Redox Dark Su	-	-		Very Shallow Dark Surface (F22)	
	ucky Mineral (S1) leyed Matrix (S4)		Depleted Dark Redox Depres		` '		Other (Explain in Remarks)	
	edox (S5)		Marl (F10) (LR		0)		³ Indicators of hydrophytic vegetation and	
	Matrix (S6)		Red Parent Ma		21) (MLF	RA 145)	wetland hydrology must be present,	
							unless disturbed or problematic.	
	_ayer (if observed):							
Type:								
Depth (ir	iches):						Hydric Soil Present? Yes X No	
Remarks:	are present. Hydric s	oil indics	ators Sandy Mucky M	Aineral (S	S1) Dark	Surface	e (S7), and Depleted Below Dark Surface (A11) are satisfie	d
Try dillo collo c	no procent. Tryano e	on maioc	noro carray maony n	miorai (e	31), Dani	Curiaco	(VIII) and Dopietod Bolow Ballik Gallago (VIII) and Gallone	u .



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: ST CLAIR COUNTY INTERNATION	ONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/3/23
Applicant/Owner: St. Clair County	<u> </u>		State: MI	Sampling Point: DP56
Investigator(s): Brauna Hartzell, Mead & Hunt,	Inc.	Section, Tow	vnship, Range: Section 3	B, T5N, R16E
Landform (hillside, terrace, etc.): Midslope	Local re	elief (concave, convex		Slope %: 3%
Subregion (LRR or MLRA): LRR L, MLRA 99	Lat: 42.890845	•	-82.546425	Datum: WGS84
Soil Map Unit Name: Allendale-Latty complex,			NWI classification:	N/A
Are climatic / hydrologic conditions on the site ty		Yes		explain in Remarks.)
, ,	•			
Are Vegetation, Soil, or Hydrolog			al Circumstances" prese	
Are Vegetation, Soil, or Hydrolog			, explain any answers in	•
SUMMARY OF FINDINGS – Attach si	ite map showing samp	oling point locati	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	'es No X	Is the Sampled Are	02	
, , ,	'es No X	within a Wetland?		No X
	/es No X	If yes, optional Wetl		<u></u>
Remarks: (Explain alternative procedures here	e or in a separate report.)			
An analysis of antecedent precipitation indicate	' '	ons were wetter than r	normal range.	
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is required			Surface Soil Cracks	(B6)
Surface Water (A1)	Water-Stained Leaves (B9	9)	Drainage Patterns (I	B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	16)
Saturation (A3)	Marl Deposits (B15)	-	Dry-Season Water 1	
Water Marks (B1)	Hydrogen Sulfide Odor (C	· ·	Crayfish Burrows (C	(8)
Sediment Deposits (B2)	Oxidized Rhizospheres or	• , ,		n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	· · · · ·	Stunted or Stressed	` '
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position	
Iron Deposits (B5)	Thin Muck Surface (C7)	-	Shallow Aquitard (D	•
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks	s) _	Microtopographic Re	` '
Sparsely Vegetated Concave Surface (B8)	1		FAC-Neutral Test (D	05)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes No_X_
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitor	oring well, aeriai pnotos, prev	/ious inspections), ii a	available:	
Remarks:				
Wetland hydrology is neither present nor indica	ated.			

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of pla	Sampling Point: DP56					
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. Acer rubrum	70	Yes	FAC	Number of Dominant Species		
2. Prunus serotina	10	No	FACU	That Are OBL, FACW, or FAC:	1 (A)	
3. Betula papyrifera	10	No	FACU	Total Number of Dominant		
4.				Species Across All Strata:	4 (B)	
5.				Percent of Dominant Species		
6.				'	25.0% (A/B)	
7.				Prevalence Index worksheet:		
	90	=Total Cover		Total % Cover of: Mu	ultiply by:	
Sapling/Shrub Stratum (Plot size: 15 ft)		•		OBL species 0 x 1 =	0	
1. Prunus serotina	10	Yes	FACU	FACW species 0 x 2 =	0	
2.				FAC species 70 x 3 =	210	
3.				FACU species 90 x 4 =	360	
4.	-			UPL species 0 x 5 =	0	
5.				Column Totals: 160 (A)	570 (B)	
6.				Prevalence Index = B/A =	3.56	
7.		1		Hydrophytic Vegetation Indicators:		
···	10	=Total Cover		1 - Rapid Test for Hydrophytic Ve		
Herb Stratum (Plot size: 5 ft)		-10101 0010.		2 - Dominance Test is >50%		
Prunus serotina	30	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹		
Gaultheria procumbens	30	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporting		
		169	FACO	data in Remarks or on a separate sheet)		
3					•	
4				Problematic Hydrophytic Vegetation	on (Explain)	
5				¹ Indicators of hydric soil and wetland h		
6.				be present, unless disturbed or problematic.		
7.				Definitions of Vegetation Strata:		
8				Tree – Woody plants 3 in. (7.6 cm) or		
9				diameter at breast height (DBH), rega	rdless of height.	
10				Sapling/shrub – Woody plants less th	han 3 in. DBH	
11				and greater than or equal to 3.28 ft (1	m) tall.	
12				Herb – All herbaceous (non-woody) p	lants, regardless	
	60	=Total Cover		of size, and woody plants less than 3.3		
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woody vines great height.	er than 3.28 ft in	
0				Height.		
				Hydrophytic		
3.				Vegetation	V	
4.				Present? Yes No	X	
		=Total Cover				

Hydrophytic vegetation is not present. About 25 ft separates this sampling point from its paired wetland sampling point (DP55) with 1 ft change in elevation. Lots of leaf litter. Saplings and shoots of cherry in shrub and herb strata.

Profile Desc Depth	ription: (Describe t Matrix	to the de		ument th x Featur		ator or co	onfirm the absence o	f indicato	ors.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	·ks	
0-15	10YR 3/1	100	,				Loamy/Clayey				
15-24	7.5YR 5/4	100					Sandy				
10-24	7.511(5/4	100					Garidy				
		-									
	oncentration, D=Depl	etion, RN	/I=Reduced Matrix, N	√S=Mas	ked Sand	d Grains.	² Location: P				
Hydric Soil I			Dork Curfoss ((07)			Indicators for		-		
Histosol	ipedon (A2)		Dark Surface (Polyvalue Belo		ce (S8) (I	I DD D			(LKK K, L, I lox (A16) (LF	MLRA 149B)	
Black His			MLRA 149B		CC (OO) (I	LIXIX IX,				(LRR K, L, R)	
	n Sulfide (A4)		Thin Dark Surf	,	(LRR R	, MLRA 1		-	Surface (S8)		
	Layers (A5)		High Chroma S						e (S9) (LRR		
Depleted	Below Dark Surface	(A11)	Loamy Mucky	Mineral ((F1) (LR I	R K, L)	Iron-Mai	nganese N	Masses (F12	2) (LRR K, L, R)	
Thick Da	rk Surface (A12)		Loamy Gleyed	Matrix (F2)		Piedmor	nt Floodpl	ain Soils (F1	9) (MLRA 149B)	
	oodic (A17)		Depleted Matri							itside MLRA 145)	
	A 144A, 145, 149B)		Redox Dark Si	-	-				k Surface (F	22)	
	ucky Mineral (S1)		Depleted Dark				Other (E	xplain in l	Remarks)		
	leyed Matrix (S4) edox (S5)		Redox Depres		8)		³ Indicate	ore of bydi	ronhytic yog	otation and	
	Matrix (S6)			Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145)				³ Indicators of hydrophytic vegetation and wetland hydrology must be present,			
	Wattix (OO)			atoriai (i	2 1) (IVILI	U-1 1-0)		-	d or problem		
Restrictive L	ayer (if observed):								'		
Type:											
Depth (in	iches):						Hydric Soil Prese	nt?	Yes	No X	
Remarks:							•				
Hydric soils a	re not present. Does	not mee	et hydric soils criteria	١.							



WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

State: MI Sampling Point: DP57 hip, Range: Section 3, T5N, R16E one): Concave Slope %: <1% 2.543847 Datum: WGS84 NWI classification: N/A No X (If no, explain in Remarks.) Circumstances" present? Yes X No explain any answers in Remarks.) ns, transects, important features, etc.			
one): Concave Slope %: <1% 2.543847 Datum: WGS84 NWI classification: N/A No X (If no, explain in Remarks.) Circumstances" present? Yes X No coplain any answers in Remarks.)			
one): Concave Slope %: <1% 2.543847 Datum: WGS84 NWI classification: N/A No X (If no, explain in Remarks.) Circumstances" present? Yes X No coplain any answers in Remarks.)			
2.543847 Datum: WGS84 NWI classification: N/A No X (If no, explain in Remarks.) Circumstances" present? Yes X No complain any answers in Remarks.)			
NWI classification: N/A No X (If no, explain in Remarks.) Circumstances" present? Yes X No comparison of the compariso			
No X (If no, explain in Remarks.) Circumstances" present? Yes X No cplain any answers in Remarks.)			
Circumstances" present? Yes X No plain any answers in Remarks.)			
xplain any answers in Remarks.)			
ns, transects, important features, etc.			
·			
Yes X No d Site ID: _18Q			
mal range. Data point taken in area with many			
condary 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)			
- 1710 11000001 1001 (20)			
ydrology Present? Yes X No			
ilable:			

VEGETATION –	Use scientific names	of plants.
* LOLIATION -		oi biaito

/EGETATION – Use scientific names of pla	ints.			Sampling Poil	nt: DP57	
Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
Populus deltoides	40	Yes	FAC	Number of Dominant Species		
2. Acer rubrum	20	Yes	FAC	That Are OBL, FACW, or FAC:	7 (A)	
3. Carpinus caroliniana	10	No	FAC	Total Number of Dominant		
4. Ulmus americana	5	No	FACW	Species Across All Strata:	7 (B)	
5.				Percent of Dominant Species	400.00/ (4/D)	
6.				That Are OBL, FACW, or FAC:	100.0% (A/B)	
7				Prevalence Index worksheet:		
	75	=Total Cover		Total % Cover of:	Multiply by:	
Sapling/Shrub Stratum (Plot size:15 ft)				· ——	1 =25	
Carpinus caroliniana	10	Yes	FAC	FACW species 40 x 2	2 = 80	
2. Fraxinus pennsylvanica	5	Yes	FACW	FAC species 100 x 3	3 = 300	
3				FACU species 0 x 4	4 = 0	
4.	-			UPL species 0 x 5	5 = 0	
5				Column Totals: 165 (A)	.) <u>405</u> (B)	
6.				Prevalence Index = B/A =	2.45	
7.				Hydrophytic Vegetation Indicators:		
	15	=Total Cover		1 - Rapid Test for Hydrophytic	c Vegetation	
Herb Stratum (Plot size: 5 ft)		-		X 2 - Dominance Test is >50%		
Calamagrostis canadensis	20	Yes	OBL	X 3 - Prevalence Index is ≤3.0 ¹		
2. Symphyotrichum lanceolatum	20	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting		
3. Ranunculus hispidus	20	Yes	FAC	data in Remarks or on a se	parate sheet)	
4. Onoclea sensibilis	10	No	FACW	Problematic Hydrophytic Vege	etation ¹ (Explain)	
5. Carex stricta 6.	5	No	OBL	¹ Indicators of hydric soil and wetla be present, unless disturbed or pro		
7.		<u> </u>		Definitions of Vegetation Strata		
8.				Tree – Woody plants 3 in. (7.6 cm	a) or more in	
9.				diameter at breast height (DBH), r	,	
10				Sapling/shrub – Woody plants le	ss than 3 in DBH	
11				and greater than or equal to 3.28 to		
12	75	=Total Cover		Herb – All herbaceous (non-wood of size, and woody plants less tha		
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woody vines g height.	reater than 3.28 ft in	
2.				Ĭ		
3.		<u> </u>		Hydrophytic		
4.				Vegetation Present? Yes X	No	
		=Total Cover				
Remarks: (Include photo numbers here or on a sepa	rate sheet)	-		l		

Hydrophytic vegetation is present. Carex crinita and Glyceria striata within tree sampling area. Canopy opened due to downing of many tall trees.

SOIL Sampling Point DP57

Profile Desc	ription: (Describe t	to the de	pth needed to doc	ument tl	ne indica	tor or co	onfirm the absence of	f indicators.)
Depth	Matrix			x Featur				
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 2/1	100					Mucky Sand	
4-20	10YR 5/1	100					Sandy	
								_
								
							<u> </u>	
¹ Type: C=Co	ncentration, D=Depl	etion, RI	M=Reduced Matrix, N	MS=Mas	ked Sand	d Grains.	² Location: Pl	L=Pore Lining, M=Matrix.
Hydric Soil I								or Problematic Hydric Soils ³ :
Histosol (, ,		X Dark Surface ('	(00) (ck (A10) (LRR K, L, MLRA 149B)
Black His	ipedon (A2)		Polyvalue Belo		ce (58) (I	LKK K,		rairie Redox (A16) (LRR K, L, R) cky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		Thin Dark Surf	,	(I RR R	MI RA 1		e Below Surface (S8) (LRR K, L)
	Layers (A5)		High Chroma S					k Surface (S9) (LRR K, L)
	Below Dark Surface	e (A11)	Loamy Mucky					nganese Masses (F12) (LRR K, L, R)
Thick Da	rk Surface (A12)		Loamy Gleyed	Matrix (F2)			t Floodplain Soils (F19) (MLRA 149B)
Mesic Sp	odic (A17)		Depleted Matri	ix (F3)			Red Pare	ent Material (F21) (outside MLRA 145)
-	A 144A, 145, 149B)		Redox Dark St					allow Dark Surface (F22)
	ucky Mineral (S1)		Depleted Dark				Other (E	xplain in Remarks)
	eyed Matrix (S4)		Redox Depres Marl (F10) (LR		8)		³ Indicato	rs of hydrophytic vegetation and
	edox (S5) Matrix (S6)		Red Parent Ma		21) (MI F	2Δ 145)		d hydrology must be present,
	Watrix (OO)			atoriai (i	2 1) (IVILI	U-C 1-10)		disturbed or problematic.
Restrictive L	ayer (if observed):							·
Type:								
Depth (in	ches):						Hydric Soil Preser	nt? Yes X No
Remarks:								
Hydric soils a	re present. Hydric s	oil indica	itors Sandy Mucky M	lineral (S	S1), Dark	Surface	(S7), and Depleted Be	low Dark Surface (A11) are satisfied.



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: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: ST CLAIR COUNTY INTERNAT	IONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/4/23
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP58
Investigator(s): Brauna Hartzell, Mead & Hunt,	, Inc.	Section, Tow	vnship, Range: Section 3	B, T5N, R16E
Landform (hillside, terrace, etc.): Midslope	Local re	elief (concave, convex		Slope %: 3-5%
Subregion (LRR or MLRA): LRR L, MLRA 99		•	-82.543735	Datum: WGS84
Soil Map Unit Name: Allendale-Latty complex			NWI classification:	N/A
Are climatic / hydrologic conditions on the site t		Yes		explain in Remarks.)
Are Vegetation, Soil, or Hydrold	• •		al Circumstances" prese	
Are Vegetation, Soil, or Hydrold			, explain any answers in	
				•
SUMMARY OF FINDINGS – Attach s	ite map snowing samp	pling point locat	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	ea	
Hydric Soil Present?	Yes No X	within a Wetland?		No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet	land Site ID:	
Remarks: (Explain alternative procedures her				
An analysis of antecedent precipitation indicate	es that environmental condition	ons were wetter than i	normal range.	
HYDROLOGY				
Wetland Hydrology Indicators:				ninimum of two required)
Primary Indicators (minimum of one is required			Surface Soil Cracks	, ,
Surface Water (A1)	Water-Stained Leaves (BS	9)	Drainage Patterns (I	•
High Water Table (A2)	Aquatic Fauna (B13)	•	Moss Trim Lines (B	·
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water 1	
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (C	,
Sediment Deposits (B2)	Oxidized Rhizospheres or	• ' '		n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stressed	` '
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position	
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	•
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	is)	Microtopographic Re	elief (D4)
Sparsely Vegetated Concave Surface (B8	<u>, </u>		FAC-Neutral Test (D	D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches): No X Depth (inches):			
Saturation Present? Yes X	No Depth (inches): _	18 Wetland	d Hydrology Present?	Yes No _X
(includes capillary fringe)				
Describe Recorded Data (stream gauge, moni	toring well, aerial photos, prev	vious inspections), if a	available:	
Remarks:				
Remarks: Wetland hydrology is neither present nor indic	ated. Mav be ground water co	ontact at 18".		
Wolland Hydrology is instance, processing	atou. may 20 g. 00	made at		

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of pla	Sampling Point: DP58				
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Acer rubrum	70	Yes	FAC	Number of Dominant Species	
2. Carpinus caroliniana	10	No	FAC	That Are OBL, FACW, or FAC:	3 (A)
3				Total Number of Dominant	
4.				Species Across All Strata:	6 (B)
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC:	50.0% (A/B)
7.				Prevalence Index worksheet:	
	80	=Total Cover		Total % Cover of: M	ultiply by:
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species 0 x 1 =	0
1. Hamamelis virginiana	30	Yes	FACU	FACW species 0 x 2 =	0
2. Carpinus caroliniana	15	Yes	FAC	FAC species 100 x 3 =	300
3.				FACU species 40 x 4 =	160
4.				UPL species 0 x 5 =	0
5.				Column Totals: 140 (A)	460 (B)
6.				Prevalence Index = B/A =	3.29
7.		<u> </u>		Hydrophytic Vegetation Indicators	
	45	=Total Cover		1 - Rapid Test for Hydrophytic Ve	
Herb Stratum (Plot size: 5 ft)		•		2 - Dominance Test is >50%	
1. Gaultheria procumbens	5	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹	
2. Aralia nudicaulis	5	Yes	FACU	4 - Morphological Adaptations ¹ (F	Provide supporting
3. Hydrophyllum virginianum	3	Yes	FAC	data in Remarks or on a separ	ate sheet)
4. Carpinus caroliniana	2	No	FAC	Problematic Hydrophytic Vegetat	ion¹ (Explain)
5 6				¹ Indicators of hydric soil and wetland be present, unless disturbed or proble	
7.				Definitions of Vegetation Strata:	
8				Tree – Woody plants 3 in. (7.6 cm) or	r more in
9				diameter at breast height (DBH), rega	
10				Sapling/shrub – Woody plants less t	than 3 in. DBH
11				and greater than or equal to 3.28 ft (1	
12	15	=Total Cover		Herb – All herbaceous (non-woody) pof size, and woody plants less than 3	
Woody Vine Stratum (Plot size: 15 ft) 1.				Woody vines – All woody vines greatheight.	
2.					
3.				Hydrophytic Vegetation	
4.					X
		=Total Cover			
Domarka: /Inaluda nhata numbara hara ar an a anna	rata abaat \			L	

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

Hydrophytic vegetation is not present. Fails the Prevalence Index @ 3.29. About 20 ft separates this sampling point from its paired wetland sampling point (DP57) with 2 ft change in elevation. Little herbaceous cover due to shade and leaf litter. Carpinus caroliniana shoots in herb stratum.

SOIL Sampling Point DP58

Profile Desc Depth	ription: (Describe t Matrix	o the de		ument th x Featur		ator or co	onfirm the absence of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture R	emarks
0-6	10YR 3/2	100					Loamy/Clayey	
6-12	7.5YR 4/6	100					Loamy/Clayey	
12-18	7.5YR 3/2	100					Loamy/Clayey	_
								
	oncentration, D=Deple	etion, RN	/I=Reduced Matrix, I	<u> </u>	ked San	d Grains.	² Location: PL=Pore Lining, N	•
Hydric Soil I Histosol			Dark Surface ((S7)			Indicators for Problematic F 2 cm Muck (A10) (LRR K	•
	ipedon (A2)		Polyvalue Beld	' '	ce (S8) (LRR R,	Coast Prairie Redox (A16	•
Black Histic (A3)			MLRA 149B		, , ,		5 cm Mucky Peat or Peat	
Hydrogei	n Sulfide (A4)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1	Polyvalue Below Surface	(S8) (LRR K, L)
	Layers (A5)		High Chroma	Sands (S	611) (LRI	R K, L)	Thin Dark Surface (S9) (I	LRR K, L)
	Below Dark Surface	(A11)	Loamy Mucky Mineral (F1) (LRR K, L)				Iron-Manganese Masses	
	rk Surface (A12)		Loamy Gleyed		F2)		Piedmont Floodplain Soil	
	oodic (A17)		Depleted Matri		-0)		Red Parent Material (F21	
	A 144A, 145, 149B) lucky Mineral (S1)		Redox Dark Some Depleted Dark	-	-		Very Shallow Dark Surface	
	leyed Matrix (S4)		Redox Depres				Other (Explain in Remark	.5)
	edox (S5)		Marl (F10) (LR	•	0)		³ Indicators of hydrophytic	vegetation and
	Matrix (S6)		Red Parent Ma	-	21) (MI F	RA 145)	wetland hydrology mus	
	mann (00)			Atoriai (i		u () ()	unless disturbed or pro	·
Restrictive L	ayer (if observed):							
Type:								
Depth (in	nches):						Hydric Soil Present? Yes	No <u>X</u>
•	are not present. Does n could be possible.	not mee	et hydric soils criteria	i. Dug to	refusal a	at 18 inch	es where some saturation encountered	. Some perching at



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: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: ST CLAIR COUNTY INTERNA	ATIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/4/23		
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP59		
Investigator(s): Brauna Hartzell, Mead & Hu	nt, Inc.	Section, To	wnship, Range: Section 3	3, T5N, R16E		
Landform (hillside, terrace, etc.): Drainage	way Local re	elief (concave, conve	ex, none): Concave	Slope %: 1-2%		
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.542759	Datum: WGS84		
Soil Map Unit Name: Allendale-Latty complete			NWI classification:			
						
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)		
Are Vegetation, Soil, or Hydro			nal Circumstances" prese			
Are Vegetation, Soil, or Hydro	ologynaturally problemat	tic? (If needed	d, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point loca	tions, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled A	rea			
Hydric Soil Present?	Yes X No	within a Wetland	? Yes X	No		
Wetland Hydrology Present?	Yes X No	If yes, optional We	etland Site ID: 25A			
Remarks: (Explain alternative procedures han analysis of antecedent precipitation indic drainageway.		ons were wetter than	normal range. Data poin	t taken at edge of		
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators (n	minimum of two required)		
Primary Indicators (minimum of one is requi	red; check all that apply)		Surface Soil Cracks	s (B6)		
Surface Water (A1)	Water-Stained Leaves (B					
X High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B			
X Saturation (A3)	Marl Deposits (B15)		Dry-Season Water			
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (C	<i>'</i>		
Sediment Deposits (B2)	Oxidized Rhizospheres o	=		on Aerial Imagery (C9)		
Drift Deposits (B3) Algal Mat or Crust (B4)	Presence of Reduced Iron Recent Iron Reduction in		X Geomorphic Position	, ,		
Iron Deposits (B5)	Thin Muck Surface (C7)	Thieu Sons (Go)	Shallow Aquitard (D			
Inundation Visible on Aerial Imagery (B						
Sparsely Vegetated Concave Surface (I	· —	,	X FAC-Neutral Test (I			
Field Observations:			<u> </u>	,		
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes X	No Depth (inches):	10				
Saturation Present? Yes X	No Depth (inches):	6 Wetlan	d Hydrology Present?	Yes X No		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos, prev	vious inspections), if	available:			
Remarks:						
Wetland hydrology is present and indicated.	. Some ponded water and water	r-stained leaves in ot	her areas of this drainage	eway wetland.		
-	•					

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of pla	Sampling Point: _	DP59					
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. Carpinus caroliniana	10	Yes	FAC	Number of Dominant Species			
2. Acer rubrum	10	Yes	FAC	That Are OBL, FACW, or FAC:	6 (A)		
3. Quercus rubra	10	Yes	FACU	Total Number of Dominant			
4. Prunus serotina	5	No	FACU	Species Across All Strata:	9 (B)		
5.				Demont of Deminent Consise			
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 6	6.7% (A/B)		
7				Prevalence Index worksheet:			
	35	=Total Cover		Total % Cover of: Mul	tiply by:		
Sapling/Shrub Stratum (Plot size: 15 ft)				OBL species0 x 1 =	0		
1. Carpinus caroliniana	10	Yes	FAC	FACW species 30 x 2 =	60		
2. Quercus rubra	10	Yes	FACU	FAC species 30 x 3 =	90		
3. Hamamelis virginiana	10	Yes	FACU	FACU species 37 x 4 =	148		
4. Quercus bicolor	5	No	FACW	UPL species 0 x 5 =	0		
5.				Column Totals: 97 (A)	298 (B)		
6.				Prevalence Index = B/A =	3.07		
7.				Hydrophytic Vegetation Indicators:			
	35	=Total Cover		1 - Rapid Test for Hydrophytic Veg	etation		
Herb Stratum (Plot size:5 ft)		-		X 2 - Dominance Test is >50%			
1. Osmundastrum cinnamomeum	10	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹			
2. Fraxinus pennsylvanica	5	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting			
3. Thelypteris palustris	5	Yes	FACW	data in Remarks or on a separat	te sheet)		
4. Onoclea sensibilis	3	No	FACW	Problematic Hydrophytic Vegetatio	n ¹ (Explain)		
5. Nabalus albus	2	No	FACU	1 In directors of budging only and westered by			
6. Quercus bicolor	2	No	FACW	¹ Indicators of hydric soil and wetland hy be present, unless disturbed or problen			
7.				Definitions of Vegetation Strata:			
8				Tree – Woody plants 3 in. (7.6 cm) or n	more in		
9				diameter at breast height (DBH), regard			
10.				Sapling/shrub – Woody plants less that	an 3 in DRH		
11.				and greater than or equal to 3.28 ft (1 n			
12.				Harb All barbassaus (non woods) nie	onto rogardiosa		
	27	=Total Cover		Herb – All herbaceous (non-woody) plate of size, and woody plants less than 3.2			
Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines greate	er than 3.28 ft in		
1				height.			
2							
3.				Hydrophytic Vegetation			
4.				Present? Yes X No			
		=Total Cover					
Remarks: (Include photo numbers here or on a separ	rate sheet.)			1			

Hydrophytic vegetation is present. Little herbaceous cover due to shade.

SOIL Sampling Point DP59

Profile Desc Depth	ription: (Describe t Matrix	to the de		ument the x Feature		ator or co	onfirm the absence o	f indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	arks
0-6	10YR 2/1	100					Mucky Sand		
6-22	10YR 5/1	97	10YR 6/6	3	С	M	Sandy	Prominent redox	concentrations
0-22	10110 3/1	31	1011070			101	Sandy	1 Tominent redox	Concentrations
									_
¹ Type: C=Cc	oncentration, D=Depl	etion. RN	/=Reduced Matrix. N	√S=Mas	ked San	d Grains.	² Location: P	L=Pore Lining, M=M	atrix.
Hydric Soil I		,	,					or Problematic Hyd	•
Histosol	(A1)		X Dark Surface (S7)				ick (A10) (LRR K, L ,	
Histic Ep	ipedon (A2)		Polyvalue Belo	w Surfa	ce (S8) (LRR R,	Coast Prairie Redox (A16) (LRR K, L, R)		
Black His	stic (A3)		MLRA 149B	6)			5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
Hydrogei	n Sulfide (A4)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1	149B) Polyvalue Below Surface (S8) (LRR K, L)		
Stratified	Layers (A5)		High Chroma S	3ands (S	311) (LR I	R K, L)	Thin Dark Surface (S9) (LRR K, L)		
X Depleted	Below Dark Surface	(A11)	Loamy Mucky	Mineral ((F1) (LR	RK, L)	Iron-Manganese Masses (F12) (LRR K, L, R)		
	rk Surface (A12)		Loamy Gleyed		F2)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	oodic (A17)		Depleted Matri				Red Parent Material (F21) (outside MLRA 145)		
	A 144A, 145, 149B)		Redox Dark Su				Very Shallow Dark Surface (F22) Other (Explain in Remarks)		
	ucky Mineral (S1)		Depleted Dark				Other (E	xpiain in Remarks)	
X Sandy R	leyed Matrix (S4)		Redox Depres Marl (F10) (LR		0)		³ Indicate	ors of hydrophytic veg	notation and
	Matrix (S6)		Red Parent Ma		21) (ML I	RΔ 145)		id hydrology must be	
ourpped	Watik (00)			Acriai (i	2 1) (IVILI	W-1-10)	unless disturbed or problematic.		
Restrictive L	ayer (if observed):								
Type:	,								
Depth (in	iches):						Hydric Soil Presei	nt? Yes X	No
Remarks:	,								
	re present. Hydric s	oil indica	tors Sandy Mucky M	lineral (§	S1), San	dy Redox	(S5), Dark Surface (S	7), and Depleted Bel	low Dark Surface
(A11) are sat	isfied.			•	,		. ,		



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: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: ST CLAIR COUNTY INTERNA	ATIONAL AIRPORT (PHN)	City/County: St Clair		Sampling Date: 10/4/23		
Applicant/Owner: St. Clair County			State: MI	Sampling Point: DP 60		
Investigator(s): Brauna Hartzell, Mead & Hu	int, Inc.	Section, Tov	vnship, Range: Section 3	3, T5N, R16E		
Landform (hillside, terrace, etc.): Midslope	Local r	relief (concave, conve		Slope %: _3-5%		
Subregion (LRR or MLRA): LRR L, MLRA 9			-82.542803	Datum: WGS84		
Soil Map Unit Name: Allendale-Latty comple			NWI classification:			
Are climatic / hydrologic conditions on the site		Yes		explain in Remarks.)		
, ,	,	-	·			
Are Vegetation, Soil, or Hydro	<u></u>		nal Circumstances" prese			
Are Vegetation, Soil, or Hydro			, explain any answers in			
SUMMARY OF FINDINGS – Attach	site map showing same	pling point locat	ions, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar	·ea			
Hydric Soil Present?	Yes No X	within a Wetland?		No X		
Wetland Hydrology Present?	Yes No X	If yes, optional Wet		<u></u>		
Remarks: (Explain alternative procedures h	nere or in a separate report.)					
An analysis of antecedent precipitation indic		ons were wetter than	normal range.			
HYDROLOGY						
Wetland Hydrology Indicators:			•	ninimum of two required)		
Primary Indicators (minimum of one is requi			Surface Soil Cracks	, ,		
Surface Water (A1)	Water-Stained Leaves (B					
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B			
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (0		Crayfish Burrows (C	· ·		
Sediment Deposits (B2)	Oxidized Rhizospheres o	• , ,		n Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iro		Stunted or Stressed			
Algal Mat or Crust (B4)	Recent Iron Reduction in					
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D			
Inundation Visible on Aerial Imagery (B	·	ks)	Microtopographic R			
Sparsely Vegetated Concave Surface (I	38)	The state of the s	FAC-Neutral Test (I	D5)		
Field Observations:						
Surface Water Present? Yes	No X Depth (inches): No X Depth (inches):					
Water Table Present? Yes	No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches):	Wetland	d Hydrology Present?	Yes NoX_		
(includes capillary fringe)		indiana inapastiona) if				
Describe Recorded Data (stream gauge, mo	onitoring well, aerial priotos, pre	vious inspections), ii a	avallable:			
Remarks:						
Wetland hydrology is neither present nor inc	dicated.					

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of pla	Sampling Point:	DP 60			
Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Prunus serotina	15	Yes	FACU	Number of Dominant Species	
2. Betula papyrifera	15	Yes	FACU	That Are OBL, FACW, or FAC:	3 (A)
3. Acer rubrum	10	Yes	FAC	Total Number of Dominant	
4. Carpinus caroliniana	10	Yes	FAC	Species Across All Strata:	8 (B)
5. Hamamelis virginiana 6.	10	Yes	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC:	37.5% (A/B)
7.				Prevalence Index worksheet:	37.370 (A/D)
1.	60	=Total Cover			ultiply by:
Sapling/Shrub Stratum (Plot size:15 ft)		'		OBL species 0 x 1 =	0
1. Hamamelis virginiana	50	Yes	FACU	FACW species 0 x 2 =	0
2. Carpinus caroliniana	10	No	FAC	FAC species 35 x 3 =	105
3.				FACU species 97 x 4 =	388
4.				UPL species 0 x 5 =	0
5.		,		Column Totals: 132 (A)	493 (B)
6.		,		Prevalence Index = B/A =	3.73
7.		,		Hydrophytic Vegetation Indicators:	
	60	=Total Cover		1 - Rapid Test for Hydrophytic Ve	
Herb Stratum (Plot size: 5 ft)		1		2 - Dominance Test is >50%	
1. Gaultheria procumbens	5	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹	
2. Acer rubrum	5	Yes	FAC	4 - Morphological Adaptations ¹ (Pr	rovide supporting
3. Nabalus albus	2	No	FACU	data in Remarks or on a separa	
4.		·		Problematic Hydrophytic Vegetation	on ¹ (Explain)
5 6.	-			¹ Indicators of hydric soil and wetland he present, unless disturbed or proble	
7.		,		Definitions of Vegetation Strata:	
8.		,			
9.				Tree – Woody plants 3 in. (7.6 cm) or diameter at breast height (DBH), regal	
10.					
11.				Sapling/shrub – Woody plants less the and greater than or equal to 3.28 ft (1	
12	12	=Total Cover		Herb – All herbaceous (non-woody) plot of size, and woody plants less than 3.3	
Woody Vine Stratum (Plot size: 15 ft)				Woody vines – All woody vines great	er than 3.28 ft in
1 2.				height.	
				Hydrophytic	
3.				Vegetation Present? Yes No	V
4.		Total Cover		Present? Yes No	<u>X</u>
	_	=Total Cover			

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

Hydrophytic vegetation is not present. Does not meet hydric soils criteria. About 15 ft separates this sampling point from its paired wetland sampling point (DP59) with 2 ft change in elevation. Little herbaceous cover due to shade. Acer rubrum shoots in herb stratum.

SOIL Sampling Point DP 60

Profile Desc Depth	ription: (Describe t Matrix	o the de	-	ument tl x Featur		ator or co	onfirm the absence of indicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Ren	narks	
0-4	10YR 3/2	100					Loamy/Clayey		
4-16	7.5YR 4/6	100					Loamy/Clayey		
16-22	10YR 5/4	100					Sandy	_	
								_	
								_	
								_	
								_	
¹ Type: C=Co	oncentration, D=Deple	etion, RN	/I=Reduced Matrix, I	MS=Mas	ked San	d Grains.	² Location: PL=Pore Lining, M=	Matrix.	
Hydric Soil I			5 . 5	(O=)			Indicators for Problematic Hy		
Histosol	(A1) ipedon (A2)		Dark Surface (Polyvalue Belo	. ,	ca (S8) (I DD D	2 cm Muck (A10) (LRR K, I Coast Prairie Redox (A16)		
Black His			MLRA 149B		ce (30) (LKK K,	5 cm Mucky Peat or Peat (
	n Sulfide (A4)		Thin Dark Surf	,	(LRR R	, MLRA 1			
	Layers (A5)		High Chroma				Thin Dark Surface (S9) (LR		
Depleted	Below Dark Surface	(A11)	Loamy Mucky	Mineral	(F1) (LR l	R K, L)	Iron-Manganese Masses (F	12) (LRR K, L, R)	
	rk Surface (A12)		Loamy Gleyed		F2)		Piedmont Floodplain Soils		
	oodic (A17)		Depleted Matri				Red Parent Material (F21)		
	A 144A, 145, 149B)		Redox Dark Some Depleted Dark				Very Shallow Dark Surface		
	ucky Mineral (S1) leyed Matrix (S4)		Redox Depres				Other (Explain in Remarks)	1	
	edox (S5)		Marl (F10) (LR		5)		³ Indicators of hydrophytic v	egetation and	
	Matrix (S6)		Red Parent Ma		21) (MLF	RA 145)	wetland hydrology must be present,		
			<u>—</u>				unless disturbed or probl	ematic.	
	ayer (if observed):								
Type:									
Depth (in	nches):						Hydric Soil Present? Yes	No_X	
Remarks:									
Hydric solls a	are not present. Does	not mee	et nyaric soils criteria	1.					



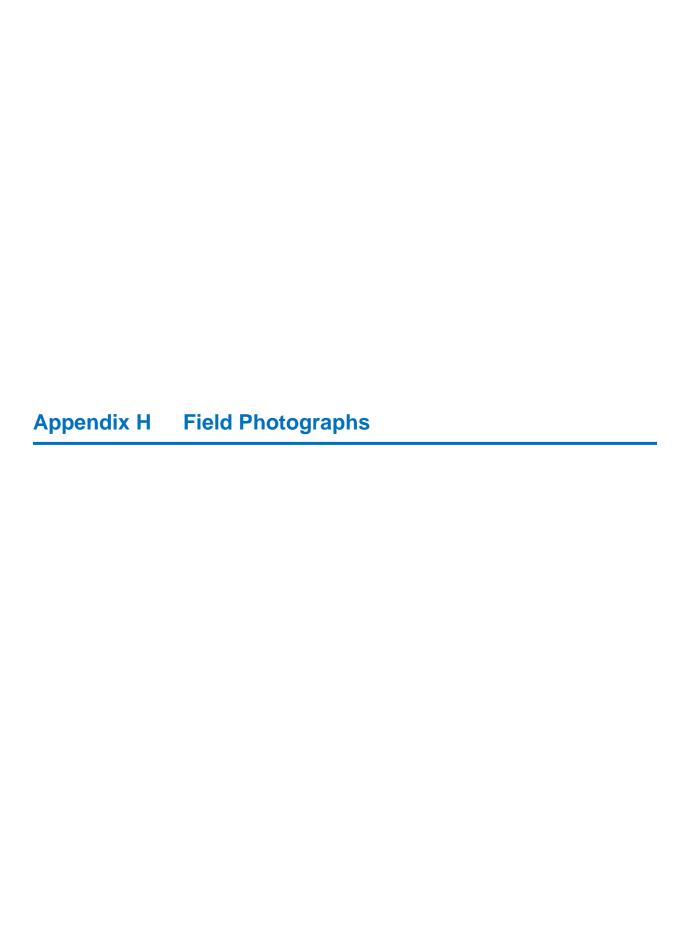




Photo 1. Wetland 1, general site. View to the southeast. (08-16-2022)



Photo 3. Wetland 1, Data Points 1 and 2. View to the east. (08-16-2022)



Photo 2. Wetland 1, general site. View to the southwest. (08-16-2022)



Photo 4. Wetland 1, Data Points 1 and 2. View to the west. (08-16-2022)



Photo 5. Wetland 1, Data Points 3 and 4. View to the southeast. (08-16-2022)



Photo 7. Wetland 2, general site. View to the east. (08-16-2022)



Photo 6. Wetland 1, Data Points 3 and 4. View to the northwest. (08-16-2022)



Photo 8. Wetland 2, general site. View to the northeast. (08-16-2022)



Photo 9. Wetland 3, general site. View to the north. (08-16-2022)



Photo 11. Wetland 3, general site. View to the southwest. (08-16-2022)



Photo 10. Wetland 3, general site. View to the northwest. (09-25-2023)



Photo 12. Wetland 4,general site. View to the northwest. (09-25-2023)



Photo 13. Wetland 4, general site. View to the northwest. (09-25-2023)



Photo 15. Wetland 5, general site. View to the north. (08-16-2022)



Photo 14. Wetland 5, general site. View to the southeast. (08-16-2022)



Photo 16. Wetland 5, Data Points 5 and 6. View to the southeast. (08-17-2022)



Photo 17. Wetland 5, Data Points 5 and 6. View to the north. (8-17-2022)



Photo 19. Wetland 6, general site. View to the northeast. (08-16-2022)



Photo 18. Wetland 6, general site. View to the northwest. (08-16-2022)



Photo 20. Wetland 6, general site. View to the east. (08-16-2022)



Photo 21. Wetland 6, Data Points 7 and 8. View to the west. (08-17-2022)



Photo 23. Wetland 7C, general site. Looking downstream. View to the south. (08-17-2022)



Photo 22. Wetland 6, Data Points 7 and 8. View to the east. (08-17-2022)



Photo 24. Wetland 7C, general site. Looking upstream . View to the north. (08-17-2022)

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Photo 25. Wetland 7B, general site. View to the northeast. (10-04-2022)



Photo 27. Wetland 7B, Data Points 21 and 22. View to the northeast. (10-04-2022)



Photo 26. Wetland 7B, general site. View to the northwest. (06-07-2023)



Photo 28. Wetland 7B, Data Points 21 and 22. View to the northwest. (10-04-2022)



Photo 29. Wetland 7B, general site. View to the southwest. (10-04-2022)



Photo 31. Wetland 7C ditch, general site. View to the northwest. (06-07-2023)



Photo 30. Wetland 7C, general site. Ditch area. View to the southwest. (08-17-2022)



Photo 32. Wetland 7C, Data Point 20 (Upland) along ditch line. View to the northeast. (10-03-2022)



Photo 33. Wetland 7C, Data Point 20 (Upland). View to the southeast. (10-03-2022)



Photo 35. Wetland 7C, ditch, general site. Looking downstream. View to the southwest. (08-17-2022)



Photo 34. Wetland 7C, Data Point 19 (Wetland). View to the northeast. (10-03-2022)



Photo 36. Wetland 7C, ditch, general site. Looking upstream. View to the northeast. (08-17-2022)



Photo 37. Wetland 8A, interior general site. View to the north. (06-07-2023)



Photo 39. Wetland 8A, Data Point 17 (Wetland). View to the west. (10-03-2022)



Photo 38. Wetland 8A, Data Point 18 (Upland) & boundary. View to the west. (10-03-2022)



Photo 40. Wetland 8C, ditch, general site. Looking downstream. View to the east. (08-17-2022)



Photo 41. Wetland 8D, ditch, general site. Looking upstream. View to the north. (08-17-2022)



Photo 43. Wetland 9, Data Point 10 (Upland). View to the west. (08-18-2022)



Photo 42. Wetland 9, culvert and roadside ditch. View to the west. (08-18-2022)



Photo 44. Wetland 9, Data Point 9 (Wetland). View to the north. (08-18-2022)



Photo 45. Wetland 9, water-stained leaves and water marks. View to the north. (08-18-2022)



Photo 47. Wetland 10A, general site. View to the northeast. (08-19-2022)



Photo 46. Wetland 10A, general site. View to the southeast. (08-19-2022)



Photo 48. Wetland 10A, general site. View to the south. (08-19-2022)



Photo 49. Wetland 10A, Data Points 13 and 14. View to the east. (08-22-2022)



Photo 51. Wetland 10A, swale to road. View to the west. (08-19-2022)



Photo 50. Wetland 10A, general site. View to the south. (08-22-2022)



Photo 52. Wetland 10A, central depressional area. View to the north. (08-19-2022)



Photo 53. Wetland 10A, general site. View to the east. (08-23-2022)



Photo 55. Wetland 10A, general site. View to the southwest. (08-23-2022)



Photo 54. Wetland 10A, Data Points 15 and 16. View to the south. (08-23-2022)



Photo 56. Wetland 10A, general site. View to the north. (08-23-2022)



Photo 57. Wetland 10A, general site. View to the north. (06-12-2023)



Photo 59. Wetland 10B, roadside ditch, standing water. View to the south. (09-25-2023)



Photo 58. Wetland 10A, general site. View to the southeast. (06-14-2023)



Photo 60. Wetland 10B, roadside ditch. View to the south. (09-25-2023)



Photo 61. Wetland 11, general site. View to the west. (08-22-2022)



Photo 63. Wetland 12, general site. View to the northwest. (08-22-2022)



Photo 62. Wetland 11, general site. View to the east. (08-22-2022)



Photo 64. Wetland 12, general site. View to the northwest. (08-22-2022)



Photo 65. Wetland 13, general site. View to the east. (08-22-2022)



Photo 67. Wetland 15C, roadside ditch. View to the north. (10-03-2022)



Photo 66. Wetland 13, general site. View to the east. (8-22-2022)



Photo 68. Wetland 15C, roadside ditch. View to the south. (10-03-2022)



Photo 69. Wetland 15B, roadside ditch. View to the north. (10-03-2022)



Photo 71. Wetland 16A, roadside ditch. View to the south. (10-03-2022)



Photo 70. Wetland 15B, roadside ditch. View to the north. (10-03-2022)



Photo 72. Wetland 16C, roadside ditch. View to the south. (10-03-2022)



Photo 73. Wetland 16C, roadside ditch. View to the north. (10-03-2022)



Photo 75. Wetland 17, general site. View to the northeast. (06-07-2023)



Photo 74. Wetland 17, general site. View to the southwest. (06-07-2023)



Photo 76. Wetland 18A, general site. View to the northwest. (10-04-2022)



Photo 77. Wetland 18D, general site. View to the southwest. (10-04-2022)



Photo 79. Wetland 18D, Data Point 30 (Upland) and boundary. View to the northwest. (10-05-2022)



Photo 78. Wetland 18B, general site. View to the northwest. (10-04-2022)



Photo 80. Wetland 18D, Data Point 29 (Wetland) and boundary. View to the northwest. (10-05-2022)



Photo 81. Wetland 18C, general site. View to the west. (10-04-2022)



Photo 83. Wetland 18E, Reed-dominated core. View to the northwest. (06-06-2023)



Photo 82. Wetland 18E, shrub fringe. View to the northwest. (10-04-2022)



Photo 84. Wetland 18C, Data Points 27 and 28. View to the west. (10-05-2022)



Photo 85. Wetland 18C, Data Points 27 and 28. View to the north. (10-05-2022)



Photo 87. Wetland 18G, general site. View to the southeast. (06-07-2023)



Photo 86. Wetland 18E, general site. View to the north. (06-07-2023)



Photo 88. Wetland 18G, general site. View to the northeast. (06-13-2023)



Photo 89. Wetland 18H, general site. View to the north. (10-05-2022)



Photo 91. Wetland 18J, Data Point 25 (Wetland). View to the southeast. (10-05-2022)



Photo 90. Wetland 18J, general site. View to the northeast. (10-05-2022)



Photo 92. Wetland 18J, Data Point 26 (Upland). View to the northwest. (10-05-2022)



Photo 93. Wetland 18J, Data Points 23 and 24. View to the southeast. (10-05-2022)



Photo 95. Wetland 18J, general site. View to the southeast. (10-05-2022)



Photo 94. Wetland 18J, Data Points 23 and 24. View to the northwest. (10-05-2022)



Photo 96. Wetland 18J, general site. View to the southwest. (10-05-2022)



Photo 97. Wetland 18N, general site. View to the southwest. (10-06-2022)



Photo 99. Wetland 18O, general site. View to the east. (10-07-2022)



Photo 98. Wetland 18N, general site. View to the north. (10-06-2022)



Photo 100. Wetland 18O, Data Points 33 and 34. View to the northeast. (10-07-2022)



Photo 101. Wetland 18O, general site. View to the south. (10-06-2022)



Photo 103. Wetland 18I, general site. View to the south. (09-30-2023)



Photo 102. Wetland 18O, general site. View to the north. (10-07-2022)



Photo 104. Wetland 18I, Data Points 48 and 49. View to the southeast. (09-30-2023)



Photo 105. Wetland 18I, general site. View to the south. (09-28-2023)



Photo 107. Wetland 18I, general site. View to the south. (09-28-2023)



Photo 106. Wetland 18I, general site, phragmites. View to the southeast. (09-28-2023)



Photo 108. Wetland 18I, drainage general site. View to the southwest. (09-28-2023)



Photo 109. Wetland 18I, general site. View to the north. (09-28-2023)



Photo 111. Wetland 18I, driainage ditch, general site. View to the west. (06-09-2023)



Photo 110. Wetland 18I, ditch segment, narrow. View to the north. (06-09-2023)



Photo 112. Wetland 18I, algal mats. View to the north. (06-08-2023)



Photo 113. Wetland 18I, general site. View to the southeast. (06-09-2023)



Photo 115. Wetland 18I, general site with young cottonwoods. View to the northwest. (09-30-2023)



Photo 114. Wetland 18I, Data Points 49 and 50. View to the north. (09-30-2023)



Photo 116. General site upland area. View to the northeast. (09-28-2023)



Photo 117. Wetland 18Q, Data Points 57 and 58. View to the west. (10-04-2023)



Photo 119. Wetland 18Q, downed trees. View to the northwest. (10-04-2023)



Photo 118. Wetland 18Q, general site. View to the southwest. (09-29-2023)



Photo 120. Wetland 18Q, downed trees. View to the north. (06-09-2023)



Photo 121. Wetland 19, general site. View to the southeast. (06-08-2023)



Photo 123. Wetland 19, general site. View to the northwest. (06-08-2023)



Photo 122. Wetland 19, general site. View to the northeast. (06-08-2023)



Photo 124. Wetland 20, general site. View to the southwest. (06-08-2023)



Photo 125. Wetland 20, Data Points 37 and 38. View to the northwest. (6-8-2023)



Photo 127. Wetland 20, general site. View to the northeast. (06-07-2023)



Photo 126. Wetland 20, general site. View to the northeast. (06-08-2023)



Photo 128. Wetland 21, general site. View to the northwest. (10-06-2022)



Photo 129. Wetland 21, central core. View to the northwest. (10-07-2022)



Photo 131. Wetland 21, Data Points 35 and 36. View to the east. (10-07-2022)



Photo 130. Wetland 21, wooded depressional area outside fence. View to the southeast. (10-07-2022)



Photo 132. Wetland 22, general site. View to the northeast. (06-08-2023)



Photo 133. Wetland 22, general site. View to the northwest. (06-08-2023)



Photo 135. Wetland 22, general site. View to the south. (06-08-2023)



Photo 134. Wetland 22, general site. View to the northeast. (06-08-2023)



Photo 136. Wetland 23B, general site. View to the northeast. (10-07-2022)



Photo 137. Wetland 23B, Data Points 31 and 32. View to the northeast. (10-07-2022)



Photo 139. Wetland 23B, general site along fence. View to the northeast. (10-07-2022)



Photo 138. Wetland 23B, Data Points 31 and 32. View to the south. (10-07-2022)



Photo 140. Wetland 23A, general site. View to the northwest. (10-07-2022)



Photo 141. Wetland 23A, general site along fence. View to the northeast. (10-07-2022)



Photo 143. Wetland 23A, general site. View to the southwest. (10-07-2022)



Photo 142. Wetland 23A, general site. View to the northeast. (10-07-2022)



Photo 144. Wetland 25A, standing water in pockets, water stained leaves. View to the northwest. (10-04-2023)



Photo 145. Wetland 25A, Data Points 59 and 60. View to the northeast. (10-04-2023)



Photo 147. Wetland 25C, crossing at pipeline corridor . View to the west. (10-02-2023)



Photo 146. Wetland 25A, standing water. View to the west. (09-29-2023)



Photo 148. Wetland 25D, ditch floodplain. View to the south. (10-02-2023)



Photo 149. Wetland 25D, ditch with flowing water. View to the north. (10-02-2023)



Photo 151. Wetland 25E, general site. View to the south. (10-02-2023)



Photo 150. Wetland 25E, general site. View to the south. (10-02-2023)



Photo 152. Wetland 25E, narrow ditch flowing to larger constructed ditch. View to the southeast. (10-03-2023)



Photo 153. Wetland 25E, narrow ditch flowing to east. View to the northwest. (10-03-2023)



Photo 155. Wetland 27, ditch flowing to east under access road. View to the west. (10-02-2023)



Photo 154. Wetland 26, general site. View to the east. (10-03-2023)



Photo 156. Wetland 27, drainage from residences to west. View to the southeast. (10-03-2023)



Photo 157. Wetland 27, royal fern-dominated herbaceous layer. View to the southeast. (10-03-2023)



Photo 159. Wetland 28, general site, depressional basin. View to the southeast. (10-03-2023)



Photo 158. Wetland 27, drainage to north to access road. View to the north. (10-03-2023)



Photo 160. Wetland 29, general site. View to the west. (10-02-2023)



Photo 161. Wetland 29, general site. View to the west. (10-02-2023)



Photo 163. Wetland 30A, general site. View to the northwest. (06-13-2023)



Photo 162. Wetland 30A, general site. View to the east. (06-13-2023)



Photo 164. Wetland 30A, general site. View to the west. (10-06-2022)



Photo 165. Wetland 30A, Data Points 39 and 40. View to the southwest. (06-13-2023)



Photo 167. Wetland 30A, shrubs along ditch. View to the south. (06-13-2023)



Photo 166. Wetland 30A, general site. View to the southwest. (06-13-2023)



Photo 168. Wetland 30C, general site. View to the east. (06-13-2023)



Photo 169. Wetland 30A, Data Points 51 and 52. View to the east. (10-01-2023)



Photo 171. Wetland 30A, north of upland island. View to the north. (10-01-2023)



Photo 170. Wetland 30A, general site.. View to the northeast. (06-14-2023)



Photo 172. Wetland 30A, general site. View to the northwest. (06-14-2023)



Photo 173. Wetland 30D, shrubby area. View to the northeast. (10-01-2023)



Photo 175. Wetland 30B, general site. View to the northeast. (09-26-2023)



Photo 174. Wetland 30(X)A, general site. View to the southwest. (09-26-2023)



Photo 176. Wetland 30B, Data Point 43 (Wetland) and boundary. View to the south. (09-30-2023)



Photo 177. Wetland 30B, Data Points 43 and 44. View to the northwest. (09-30-2023)



Photo 179. Wetland 31, standing water. View to the southeast. (10-01-2023)



Photo 178. Wetland 31, general site. View to the south. (10-01-2023)



Photo 180. Wetland 31, sparsely vegetated concave surface. View to the north. (10-01-2023)



Photo 181. Wetland 31, Data Points 55 and 56. View to the northwest. (10-03-2023)



Photo 183. Wetland 32B, general site. View to the northeast. (09-26-2023)



Photo 182. Wetland 32A, general site. View to the north. (09-26-2023)



Photo 184. Wetland 32B, Data Points 45 and 46. View to the northeast. (09-30-2023)



Photo 185. Wetland 32B, drainageway. View to the southeast. (09-30-2023)



Photo 187. Wetland 33, general site. View to the southwest. (09-26-2023)



Photo 186. Wetland 33, beyond AOI. View to the southeast. (09-26-2023)



Photo 188. Wetland 33, Data Points 41 and 42. View to the north. (06-13-2023)



Photo 189. Wetland 33, under drier than normal conditions. View to the west. (10-06-2022)



Photo 191. Wetland 35A, general site. View to the west. (10-02-2023)



Photo 190. Wetland 33, Water marks on trees under normal conditions. View to the north. (06-13-2023)



Photo 192. Wetland 35A, general site. View to the northeast. (10-02-2023)



Photo 193. Wetland 35C at pipeline corridor . View to the east. (10-02-2023)



Photo 195. Wetland 35B, Data Points 53 and 54. View to the northeast. (10-03-2023)



Photo 194. Wetland 35B, general site with standing water. View to the northwest. (10-02-2023)



Photo 196. Wetland 35B, general site. View to the south. (10-01-2023)



Photo 197. Wetland 35B, general site. View to the south. (10-01-2023)



Photo 199. Wetland 36B, general site. View to the northwest. (10-01-2023)



Photo 198. Wetland 35(X)C, pipeline corridor on private property . View to the west. (10-02-2023)



Photo 200. Wetland 36A, general site. View to the northeast. (10-01-2023)



Photo 201. Wetland 37(X), ditch. View to the south. (10-02-2023)



Photo 202. Wetland 37(X), ditch. View to the south. (10-02-2023)



Wetland 1	
Site Information	
Sampling Date	8/16/2022 (Normal Conditions)
Cowardin Class	PEM
Wetland Description	Wetland 1 is a shallow depression located within the Runway 22 RSA and is frequently mowed. The wetland is dominated by silky dogwood (Cornus amonum: FACW), meadow willow (Salix petiolaris: FACW), woolly sedge (Carex pellita: OBL), and yellow-green sedge (Carex flava: OBL) with some Virginia blueflag (Iris virginica: OBL), common reed (Phragmites australis: FACW), hop sedge (Carex lupulina: OBL), and soft rush (Juncus effusus: OBL). Growth of shrubby vegetation is kept in check by the frequent mowing; however, dogwood and willow were dominants in the shrub layer at wetland sampling points 1 and 3. Crayfish burrows were observed throughout the wetland. Wetland 1 appears to be internally drained with no apparent outlets and the majority of the wetland is underlain by fine sandy soils.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Wainola-Deford fine sands, 0 to 2 percent slopes (WdA) (Partially Hydric); Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric)
Photo Numbers**	Photos 1 - 6
Associated Data Pts***	DPs 1 - 4
Map Number(s)*	3
Comments	Shallow depression, mowed frequently
Wetland Criteria	
Dominant Vegetation	Cornus amomum (FACW), Carex pellita (OBL), Carex flava (OBL); Salix petiolaris (FACW), Carex pellita (OBL)
Hydric Soil Indicators	Depleted Below Dark Surface (A11), Depleted Matrix (F3), Redox Depressions (F8); Depleted Below Dark Surface (A11), Redox Dark Surface (F6)
Hydrology Indicators	Crayfish Burrows (C8), Geomorphic Position (D2), FAC-Neutral Test (D5); Crayfish Burrows (C8), Geomorphic Position (D2), FAC-Neutral Test (D5)
Boundary Determination	
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, and distinct topographic changes along the depression.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 2 Site Information		
Cowardin Class	PEM	
Wetland Description	Wetland 2 is a shallow depression located within the Runway 22 RSA and is frequently mowed. It is dominated by sensitive fern (Onoclea sensibilis: FACW), wooly sedge (Carex pellita: OBL) along with some Virginia blueflag (Iris virginica: OBL). The wetland is entirely underlain by fine sandy soils and appears to be internally drained with no apparent outlets.	
Mapped NWI Type	N/A	
Mapped Soil Type/ Hydric Rating	Wainola-Deford fine sands, 0 to 2 percent slopes (WdA) (Partially Hydric)	
Photo Numbers**	Photos 7 - 8	
Associated Data Pts***	No DPs	
Map Number(s)*	3	
Comments	Shallow depression, mowed frequently	
Wetland Criteria		
Dominant Vegetation	Onoclea sensibilis (FACW), Carex pellita (OBL)	
Hydric Soil Indicators	Observed Depleted matrix	
Hydrology Indicators	Observed Geomorphic Position, FAC-Neutral Test	
Boundary Determination		
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, and distinct topographic changes along the depression.	

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 3 Site Information		
Cowardin Class	PEM	
Wetland Description	Wetland 3 is a shallow, broad drainageway located within the Runway 22 RSA and is infrequently mown due to the persistence of standing water over the growing season. Standing water was present on both site visits. Wetland 3 is dominated by common reed (Phragmites australis: FACW), sensitive fern (Onoclea sensibilis: FACW), and northern lady-fern (Athyrium angustum: FAC). This wetland is previously mapped as PEM5C on the NWI. Drainage appears to flow to the north outside of the AOI into a roadside ditch along Smith's Creek Road.	
Mapped NWI Type	PEM5C	
Mapped Soil Type/ Hydric Rating	Wainola-Deford fine sands, 0 to 2 percent slopes (WdA) (Partially Hydric); Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric)	
Photo Numbers**	Photos 9 - 11	
Associated Data Pts***	No DPs	
Map Number(s)*	3	
Comments	Drainage swale, mowed periodically	
Wetland Criteria		
Dominant Vegetation	Phragmites australis (FACW), Onoclea sensibilis (FACW), Athyrium angustum (FAC)	
Hydric Soil Indicators	Observed Depleted matrix	
Hydrology Indicators	Observed standing water to 2 inches in places, Saturation at the surface, FAC-Neutral Test	
Boundary Determination		
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, and distinct topographic changes along the drainageway.	

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 4 Site Information		
Cowardin Class	PEM	
Wetland Description	Wetland 4 is a shallow drainageway located within the Runway 22 RSA and is infrequently mown due to the persistence of standing water over the growing season. Standing water was present on both field visits. It is dominated by common reed (Phragmites australis: FACW) with some purple loosestrife (Lythrum salicaria: OBL). This wetland is previously mapped as PEM1C on the NWI. Drainage appears to flow to the north outside of the AOI into a roadside ditch along Smith's Creek Road.	
Mapped NWI Type	PEM1C	
Mapped Soil Type/ Hydric Rating	Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric); Wainola-Deford fine sands, 0 to 2 percent slopes (WdA) (Partially Hydric)	
Photo Numbers**	Photos 12 - 13	
Associated Data Pts***	No DPs	
Map Number(s)*	3	
Comments	Drainage swale, mowed periodically	
Wetland Criteria		
Dominant Vegetation	Phragmites australis (FACW)	
Hydric Soil Indicators	N/A	
Hydrology Indicators	Observed Geomorphic Position, FAC-Neutral Test	
Boundary Determination		
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, and distinct topographic changes along the drainageway.	

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 5 Site Information		
Cowardin Class	PEM	
Wetland Description	Wetland 5 is a shallow depression located within the Runway 22 RSA and is frequently mowed. The wetland is dominated by green ash (Fraxinus pennsylvanica: FACW), gray dogwood (Cornus racemosa: FAC), hop sedge (Carex lupulina: OBL), and woolly sedge (Carex pellita: OBL) at wetland sampling point DP5. The eastern half of the wetland along an unpaved access road is dominated by yellow-green sedge (Carex flava: OBL) and variegated scouring-rush (Equisetum variegatum: FACW). Virginia blueflag (Iris virginica: OBL), fox sedge (Carex vulpinoidea: OBL), and ditch stone-crop (Penthorum sedoides: OBL) as well as variegated scouring-rush were also observed in the western half. Growth of shrubby vegetation is kept in check by the frequent mowing; however, dogwood and green ash were dominants in the shrub layer at wetland sampling point DP5. Crayfish burrows were observed throughout the wetland. Wetland 5 appears to be internally drained with no apparent outlets and the wetland is entirely underlain by fine sandy soils. The soil profile at DP 5 was found to consist of loamy soils, however.	
Mapped NWI Type	N/A	
Mapped Soil Type/ Hydric Rating	Wainola-Deford fine sands, 0 to 2 percent slopes (WdA) (Partially Hydric)	
Photo Numbers**	Photos 14 - 17	
Associated Data Pts***	DPs 5 - 6	
Map Number(s)*	3	
Comments	Shallow depression, mowed frequently	
Wetland Criteria		
Dominant Vegetation	Fraxinus pennsylvanica (FACW), Cornus racemosa (FAC), Carex lupulina (OBL), Carex pellita (OBL)	
Hydric Soil Indicators	Depleted Below Dark Surface (A11), Depleted Matrix (F3)	
Hydrology Indicators	Crayfish Burrows (C8), Geomorphic Position (D2), FAC-Neutral Test (D5)	
Boundary Determination		
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, a lack of hydric soil indicators, and distinct topographic changes along the depression.	

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 6		
Site Information		
Sampling Date	8/17/2022 (Normal Conditions)	
Cowardin Class	PEM	
Wetland Description	Wetland 6 is a shallow depression located within the Runway 22 RSA and is frequently mowed. The wetland is dominated by common reed (Phragmites australis: FACW) along with ditch stone-crop (Penthorum sedoides: OBL), hop sedge (Carex lupulina: OBL), smooth saw-grass (Cladium mariscoides: OBL), and American water-plantain (Alisma subcordatum: OBL) as subdominants, seen at wetland sampling point DP7. Crayfish burrows were observed throughout the wetland along with water-stained leaves in some areas. Wetland 6 appears to be internally drained with no apparent outlets and the wetland is partially underlain by fine sandy soils. The soil profile at DP7 was found to consist of loamy soils, however.	
Mapped NWI Type	N/A	
Mapped Soil Type/ Hydric Rating	Wainola-Deford fine sands, 0 to 2 percent slopes (WdA) (Partially Hydric); Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric); Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric)	
Photo Numbers**	Photos 18 - 22	
Associated Data Pts***	DPs 7 - 8	
Map Number(s)*	3	
Comments	Shallow depression, mowed frequently	
Wetland Criteria		
Dominant Vegetation	Phragmites australis (FACW)	
Hydric Soil Indicators	Depleted Below Dark Surface (A11), Depleted Matrix (F3)	
Hydrology Indicators	Water-Stained Leaves (B9), Crayfish Burrows (C8), Geomorphic Position (D2), FAC-Neutral Test (D5)	
Boundary Determination		
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, and distinct topographic changes along the boundary.	

^{*} See Appendix F for Wetland Mapping
** See Appendix H for Photos
*** See Appendix G for Wetland Data Sheets

Site Information	
Sampling Date	8/17/2022 (Normal Conditions), 10/4/2022 (Drier than Normal), 6/7/2023 (Normal Conditions)
Cowardin Class	RUBx/PEM/PFO
Wetland Description	Wetland 7 is located near the Runway 4 end and consists of a deep, steep-sided constructed ditch (7C) and a connected area of emergent (7B) and forested wetland (7A) to the west. The ditch portion is part of drainage network that drains the western side of the runway and carries flows to the south. This ditch connects to the ditch portion of Wetland 8D to the east via a culvert under a crossing point and a connecting ditch contributes flows from the north. At wetland sampling point DP19, taken within the ditch, wetland hydrology was directly observed as standing water, a high water table, and saturation. Within the ditch, vegetation was dominated by shrubs alder (Alnus incana: FACW) and glossy buckthorn (Frangula alnus: FAC) and the herb layer was dominated by smooth saw-grass (Cladium mariscoides: OBL), Dudley's rush (Juncus dudleyi: FACW), and wrinkle-leaf goldenrod (Solidago rugosa: FAC) along with softstem rush (Schoenoplectus tabernaemontani: OBL), boneset (Eupatorium perfoliatum: FACW), and common reed (Phragmites australis: FACW) as subdominants. Standing water to about 4 - 5 inches deep was present throughout the ditch. Connected to this ditch via a narrow swale is a large expanse of wetland along the western side of the AOI consisting of emergent and forested sections. The emergent portion occupies the lowest landscape positions while the forested fringe occupies somewhat higher elevations along the western edge. At wetland sampling point DP21 taken along the emergent edge, common reed (Phragmites australis: FACW) and reed canary grass (Phalaris arundinacea: FACW) were co-dominants in the herb stratum, buttonbush (Cephalanthus occidentalis: OBL) dominated the shrub layer, and red maple (Acer rubrum: FAC) and paper birch (Betula papyrifera: FACU) were co-dominants in the tree stratum. Red maple and aspen (Populus tremuloides: FAC) were dominant within the forested portion with a sparse ground layer mostly dominated by ferns.
Mapped NWI Type	PEM5C (7A, B); R2UBFx (7C)
Mapped Soil Type/ Hydric Rating	Wainola-Deford fine sands, 0 to 2 percent slopes (WdA) (Partially Hydric); Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric); Allendale-Lenawee-Toledo complex, 0 to 3 percent slopes (AtA) (Partially Hydric)
Photo Numbers**	Photos 23 - 36
Associated Data Pts***	DPs 19 - 22
Map Number(s)*	5, 7
Comments	Drainage swale
Wetland Criteria	
Dominant Vegetation	Alnus incana (FACW), Frangula alnus (FAC), Cladium mariscoides (OBL), Juncus dudleyi (FACW), Solidago rugosa (FAC), Vitis riparia (FAC); Acer rubrum (FAC), Betula papyrifera (FACU), Cephalanthus occidentalis (OBL), Phragmites australis (FACW), Phalaris arundinacea (FACW)
Hydric Soil Indicators	Sandy Redox (S5), High Chroma Sands (S11), Depleted Matrix (F3); Redox Dark Surface (F6)
Hydrology Indicators	Surface Water (A1), High Water Table (A2), Saturation (A3), Geomorphic Position (D2) FAC-Neutral Test (D5); Geomorphic Position (D2), FAC-Neutral Test (D5)
Boundary Determination	
Description	The boundary along the ditch was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, and distinct topographic changes along the steep sided ditch. The boundary along the emergent/forested section was determined by a lack of wetland hydrology indicators, an absence of hydric soil indicators, and a more gradual topographic change along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Site Information	
Sampling Date	8/17/2022, 6/7/2023 (Normal Conditions)
Cowardin Class	RUBx/PEM/PSS/PUB
Wetland Description	Wetland 8 consists of several wetland types and is dominated by a ditch section (8D) and a shallow marsh section (8A) connected by shrub (8B) and emergent (8C) sections. The ditch portion is part of the large drainage system draining the western side of Runway 4/22. Common reed (Phragmites australis: FACW) filled the ditch bottom and willows and red osier occupied the ditch slopes. The emergent section is a narrow swale connecting the shallow marsh to the main ditch and was formerly covered by shrubs but was cleared fairly recently; vegetative growth was dominated by reed canary grass (Phalaris arundinacea: FACW). A small area of shrubs occupies the area between the shallow marsh and the narrow swale. The shallow marsh (PUB) is mapped as PUBH on the NWI with a fringe of mapped PEM5C. At wetland sampling point DP17 taken along the edge of the marsh area, the herb layer was dominated by common reed with buttonbush (Cephalanthus occidentalis: OBL) and glossy buckthorn (Frangula alnus: FAC) in the shrub layer and red maple (Acer rubrum: FAC) dominating the tree-covered fringe of the marsh.
Mapped NWI Type	PUBH, PEM5C (8A);R2UBFx (8D)
Mapped Soil Type/ Hydric Rating	Wainola-Deford fine sands, 0 to 2 percent slopes (WdA) (Partially Hydric); Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric)
Photo Numbers**	Photos 37 - 41
Associated Data Pts***	DPs 17 - 18
Map Number(s)*	5
Comments	Drainage swale and shallow marsh
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Cephalanthus occidentalis (OBL), Frangula alnus (FAC), Phragmites australis (FACW)
Hydric Soil Indicators	Sandy Redox (S5), High Chroma Sands (S11)
Hydrology Indicators	Geomorphic Position (D2), FAC-Neutral Test (D5)
Boundary Determination	
Description	The boundary was determined by a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the edge of the shallow marsh.

^{*} See Appendix F for Wetland Mapping
** See Appendix H for Photos
*** See Appendix G for Wetland Data Sheets

Site Information	
Sampling Date	8/18/2022 (Normal Conditions)
Cowardin Class	PFO
Wetland Description	Wetland 9 is a hardwood swamp located at the intersection of Smiths Creek and Allen roads, west of Allen Road. The wetland is dominated by red maple (Acer rubrum: FAC), elm (Ulmus americana: FACW), and glossy buckthorn (Frangula alnus: FAC). Other species observed included swamp white oak (Quercus bicolor: FACW), cottonwood (Populus deltoides: FAC), and quaking aspen (Populus tremuloides: FAC). The sparse herbaceous layer was dominated by crested sedge (Carex cristatella: FACW) with some fowl manna grass (Glyceria striata: OBL). Water-stained leaves, water marks, and sparsely vegetated concave surfaces were observed in several areas of the wetland, especially at the north end. The southern end of the wetland appears to be more impacted by invasive species such as oriental bittersweet (Celastrus orbiculatus: UPL) and common reed (Phragmites australis: FACW), especially along the Allen Road side of the wetland. The wetland continues beyond the project AOI. Wetland 9(X) is the portion of the wetland on private land estimated on the basis of contours, soils, and historic aerials.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric)
Photo Numbers**	Photos 42 - 45
Associated Data Pts***	DPs 9 - 10
Map Number(s)*	3
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Ulmus americana (FACW), Frangula alnus (FAC), Carex cristatella (FACW)
Hydric Soil Indicators	Depleted Below Dark Surface (A11)
Hydrology Indicators	Geomorphic Position (D2), FAC-Neutral Test (D5)
Boundary Determination	•
Description	The boundary was determined by a transition to upland vegetation, lack of wetland hydrology indicators, and slight topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Site Information	
Sampling Date	8/19/2022 (Normal Conditions), 6/15/2023 (Normal Conditions), 9/25/2023 (Wetter than Normal)
Cowardin Class	PFO
Wetland Description	Wetland 10A is a hardwood swamp located at the intersection of Smiths Creek and Allen roads, east of Allen Road. The wetland was visited on three site visits under both normal and wetter than normal conditions. The wetland is dominated by red maple (Acer rubrum: FAC), elm (Ulmus americana: FACW), green ash (Fraxinus pennsylvanica: FACW), swamp white oak (Quercus bicolor: FACW), American hornbeam (Carpinus caroliniana: FAC), and cottonwood (Populus deltoides: FAC). Quaking aspen was also seen as an important sub-dominant in some areas. The herbaceous layer consists of created sedge (Carex cristatella: FACW), fowl manna grass (Glyceria striata: OBL), flat-top white aster (Doellingeria umbellata: FACW), and fox sedge (Carex vulpinoidea: OBL). A fairly diverse plant community is supported within this wetland's pit-and-mound topography. Several large upland islands were delineated. Hydrophytic vegetation often crossed the boundary in this moist wooded environment. Water-stained leaves, water marks, moss trim lines, and sparsely vegetated concave surfaces were observed in several areas within the wetland. Drainage through this relatively flat area generally flows to the south within broad shallow depressional swales where under wetter conditions standing water and saturated conditions were observed. At the northern end, a constructed shallow swale brings drainage from the west along Allen Road where it collects in a large shallow depression. The southern end of the wooded area was being overtaken by oriental bittersweet (Celastrus orbiculatus: UPL), especially in more disturbed areas near the road intersection where some previous tree clearing has occurred. The wetland continues beyond the project AOI to the north. Wetland 10B is a roadside drainage along Allen Road that connects to the constructed swale within Wetland 10A.
Mapped NWI Type	PFO1A (10A)
Mapped Soil Type/ Hydric Rating	Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric)
Photo Numbers**	Photos 46 - 60
Associated Data Pts***	DPs 11 -16
Map Number(s)*	1, 2, 4
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Ulmus americana (FACW), Fraxinus pennsylvanica (FACW), Quercus bicolor (FACW), Carex cristatella (FACW), Glyceria striata (OBL); Acer rubrum (FAC), Tilia americana (FACU), Fraxinus pennsylvanica (FACW), Carpinus caroliniana (FAC), Ribes cynosbati (FACU), Doellingeria umbellata (FACW), Fragaria virginiana (FACU); Acer rubrum (FAC), Populus deltoides (FAC), Fraxinus pennsylvanica (FACW), Glyceria striata (OBL), Carex vulpinoidea (OBL)
Hydric Soil Indicators	Depleted Below Dark Surface (A11); Depleted Below Dark Surface (A11); Depleted Matri. (F3)
Hydrology Indicators	Water Marks (B1), Water-Stained Leaves (B9), Moss Trim Lines (B16), Geomorphic Position (D2), FAC-Neutral Test (D5); Water Marks (B1), Sparsely Vegetated Concave Surface (B8), Water-Stained Leaves (B9), Geomorphic Position (D2); Water Marks (B1), Sparsely
Boundary Determination	
Description	The boundary was determined by a lack of wetland hydrology indicators, a lack of hydric soils indicators at most sampling points, and slight topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 11	
Site Information	
Sampling Date	8/22/2022 (Normal Conditions)
Cowardin Class	PFO
Wetland Description	Wetland 11 is a depressional basin in the wooded area north of Smiths Creek Road and east of Allen Road. It is dominated by green ash saplings (Fraxinus pennsylvanica: FACW) along with elm (Ulmus americana: FACW), and swamp white oak (Quercus bicolor: FACW). The depression exhibited water-stained leaves, water marks, and a sparsely vegetated concave surface.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric)
Photo Numbers**	Photos 61 - 62
Associated Data Pts***	No DPs
Map Number(s)*	2
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Fraxinus pennsylvanica (FACW), Ulmus americana (FACW), Quercus bicolor (FACW)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, FAC-Neutral Test
Boundary Determination	
Description	The boundary was determined by a lack of wetland hydrology indicators and slight topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 12	
Site Information	
Sampling Date	8/22/2022 (Normal Conditions)
Cowardin Class	PFO
Wetland Description	Wetland 12 is a narrow depressional drainage dominated by elm (Ulmus americana: FACW) and fowl manna grass (Glyceria striata: OBL). Red maple (Acer rubrum: FAC), green ash (Fraxinus pennsylvanica: FACW), and swamp white oak (Quercus bicolor: FACW) were also present in the tree stratum as were sensitive fern (Onoclea sensibilis: FACW) and slender wood-reed (Cinna latifolia: FACW) in the herb stratum. Drainage appears to flow to the west-southwest towards Wetland 10. The wetland is located in the wooded area north of Smiths Creek Road and east of Allen Road.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric)
Photo Numbers**	Photos 63 - 64
Associated Data Pts***	No DPs
Map Number(s)*	2
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Ulmus americana (FACW), Glyceria striata (OBL)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, FAC-Neutral Test
Boundary Determination	
Description	The boundary was determined by a lack of wetland hydrology indicators and slight topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 13, 13(X)A -C	
Site Information	
Sampling Date	8/22/2022 (Normal Conditions)
Cowardin Class	PFO
Wetland Description	Wetland 13 is a narrow depressional drainage at the southeast corner of airport property in the wooded area east of Allen Road. It is dominated by green ash (Fraxinus pennsylvanica: FACW) and fowl manna grass (Glyceria striata: OBL), along with Virginia blueflag (Iris virginica: OBL), sensitive fern (Onoclea sensibilis: FACW), crested sedge (Carex cristatella: FACW), jumpseed (Persicaria virginiana: FAC), mad dog skullcap (Scutellaria lateriflora: OBL), and swamp agrimony (Agrimonia parviflora: FAC). The wetland continues beyond the project AOI. Wetland 13(X)A, B, and C is a portion of the wetland on private land estimated on the basis of contours, soils, NWI, and historic aerials.
Mapped NWI Type	PUBHx (13(X)C)
Mapped Soil Type/ Hydric Rating	Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric)
Photo Numbers**	Photos 65 - 66
Associated Data Pts***	No DPs
Map Number(s)*	2, 4
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Fraxinus pennsylvanica (FACW), Glyceria striata (OBL)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, FAC-Neutral Test
Boundary Determination	
Description	The boundary was determined by a lack of wetland hydrology indicators and slight topographic changes along the boundary. Estimated wetland areas were determined using contours, soils, NWI, and historic aerials.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 14	
Site Information	
Sampling Date	9/25/2023 (Normal Conditions)
Cowardin Class	PSS
Wetland Description	Wetland 14 is a scrub-shrub dominated wetland just south of Smiths Creek Road in a wooded area on airport property. It was previously delineated in 2012. This shallow depressional basin is dominated by gray dogwood (Cornus racemosa: FAC), red osier (C. alba: FACW), and silky dogwood (C. amomum: FAC). The basin uplands are dominated by red pine (Pinus resinosa: FACU). Water-stained leaves were seen in the central part of the wetland. Drainage appears to come from the infield to the west through a narrow ditch on the west side and finds an exit on the north side to a roadside ditch along Smiths Creek Road.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric)
Photo Numbers**	No photos
Associated Data Pts***	No DPs
Map Number(s)*	4
Comments	Scrub-shrub
Wetland Criteria	
Dominant Vegetation	Cornus racemosa (FAC), C. alba (FACW), C. amonum (FAC)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, Water-stained leaves, FAC-Neutral Test
Boundary Determination	•
Description	The boundary was determined by a lack of wetland hydrology indicators and slight topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 15 (A, B, C)	
Site Information	
Sampling Date	10/3/2022 (Drier than Normal)
Cowardin Class	PEM
Wetland Description	Wetland 15 is a roadside ditch on the east side of Allen Road, separated into three sections by driveway culvert crossings (A, B, and C). The relatively narrow steep-sided ditch segments contained standing water and were saturated at the surface. The emergent vegetation was dominated by reed canary grass (Phalaris arundinacea: FACW) and green ash saplings (Fraxinus pennsylvanica: FACW) along with common reed (Phragmites australis: FACW), white-panicled American aster (Symphyotrichum lanceolatum: FACW), New England aster (Symphyotrichum novae-angliae: FACW), and some iris (Iris sp.). Crayfish burrows were noted throughout the segments of this wetland. The ditch segments are periodically mowed.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric)
Photo Numbers**	Photos 67 - 70
Associated Data Pts***	No DPs
Map Number(s)*	1, 3
Comments	Roadside ditch
Wetland Criteria	
Dominant Vegetation	Phalaris arundinacea (FACW), Fraxinus pennsylvanica (FACW), Phragmites australis (FACW), Symphyotrichum lanceolatum (FACW), Symphyotrichum novaeangliae (FACW)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, FAC-Neutral Test
Boundary Determination	•
Description	The boundary was determined by a lack of wetland hydrology indicators and distinct topographic changes along the ditch profile.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 16 (A, B, C) Site Information	
Cowardin Class	PEM
Wetland Description	Wetland 16 is a roadside ditch on the west side of Allen Road, separated into three sections by driveway culvert crossings (A, B, and C). The emergent vegetation was dominated by reed canary grass (Phalaris arundinacea: FACW), common reed (Phragmites australis: FACW), and white-panicled American aster (Symphyotrichum lanceolatum: FACW). The ditch segments are periodically mowed.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric)
Photo Numbers**	Photos 71 - 73
Associated Data Pts***	No DPs
Map Number(s)*	3
Comments	Roadside ditch
Wetland Criteria	
Dominant Vegetation	Phalaris arundinacea (FACW), Phragmites australis (FACW), Symphyotrichum lanceolatum (FACW)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, FAC-Neutral Test
Boundary Determination	
Description	The boundary was determined by a lack of wetland hydrology indicators and distinct topographic changes along the ditch profile.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 17	
Site Information	
Sampling Date	6/7/2023 (Normal Conditions)
Cowardin Class	PEM
Wetland Description	Wetland 17 is a small shallow depression along the perimeter access road near the western fence line in the Rwy 4 End AOI. Standing water to approximately 12 - 15 inches deep was present and appears to be a closed depression. The wetland appears to retain water for a majority of the season since the perimeter access track was rerouted to higher ground on the south and east sides. The wetland was dominated by common reed (Phragmites australis: FACW). The wetland continues beyond the project AOI.
Mapped NWI Type	PEM5C
Mapped Soil Type/ Hydric Rating	Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric)
Photo Numbers**	Photos 74 - 75
Associated Data Pts***	No DPs
Map Number(s)*	5
Comments	Depression
Wetland Criteria	
Dominant Vegetation	Phragmites australis (FACW)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, Standing water, FAC-Neutral Test
Boundary Determination	•
Description	The boundary was determined by a lack of wetland hydrology indicators and distinct topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 18 (A-S)	
Site Information	
Sampling Date	10/4/2022 (Drier than Normal), 6/8/2023 (Normal Conditions), 9/29/2023 (Wetter than Normal)
Cowardin Class	PUB, PEM, PFO, PSS
Wetland Description	Wetland 18 is large wetland complex located within the Runway 4 project AOI and consists of forested, scrub-shrub, emergent, and shallow marsh components. The perimeter fence splits the wetland into periodically maintained and more natural areas. On airport property, a large shallow marsh area, dominated by common reed (Phragmites australis: FACW), occupies the central core surrounded by a mix of shrub-dominated and forested areas. Mowed areas within the infield maintain the vegetation in a wet meadow plant community dominated by common reed, reed canary grass (Phalaris arundinacea: FACW), lady fern (Athyrium angustum: FAC), woolly sedge (Carex pellita: OBL), smooth saw-grass (Cladium mariscoides: OBL), rosette grass (Dichanthelium clandestinum: FACW). Shrubby areas surrounding the shallow marsh are dominated by alder (Alnus incana: FACW) and quaking aspen (Populus tremuloides: FAC) along with a variety of willows, dogwoods, and glossy buckthorn (Frangula alnus: FAC). Within the shallow marsh, standing water was encountered at all three field visits. A drainage ditch paralleling the perimeter fence on the west side carries flows from the northeast to southwest before angling to the southeast. This ditch was covered by a woody mix of alder and quaking aspen; standing water was present within the ditch at all three field visits. South of the perimeter fence, a complex of swales generally carry water to the south from areas within the infield. The vegetation is not maintained in this portion of the project AOI. The swales are covered by a mix of shrubs and smaller trees consisting of alder, meadow, pussy, and sandbar willow (Salix petiolaris: FACW, S. discolor: FACW, S. interior: FACW), gray dogwood (Cornus racemosa: FAC), buttonbush (Cephalanthus occidentalis: OBL), cottonwood (Populus deltoides: FAC), and green ash (Fraxinus pennsylvanica: FACW). Standing water was encountered writhin the swales at all three field visits. Several large patches of common reed were also present. At the southern end of the wetlan
Mapped NWI Type	PEM1C (18B); PEM5C (18D,C); PUBH and PEM5C (18E); PEM5C and PFO1C (18G); PFO1/EM1C (18J, K, L); PSS1/EM5C, R2UBFx, PEM5C (18I); PEM5C
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AlA) (Partially Hydric); Allendale-Lenawee-Toledo complex, 0 to 3 percent slopes (AtA) (Partially Hydric); Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric); Rousseau fine sand, 6
Photo Numbers**	Photos 76 - 115, 117-120
Associated Data Pts***	DPs 23 - 30, 33 - 34, 47 - 50, 57 - 58
Map Number(s)*	6, 7, 9, 10
Comments	Shallow marsh, Emergent, Forested, and Scrub-shrub
Wetland Criteria	
Dominant Vegetation	Phalaris arundinacea (FACW), Athyrium angustum (FAC), Dichanthelium clandestinum (FACW), Phragmites australis (FACW); Phalaris arundinacea (FACW), Phragmites australis (FACW); Cladium mariscoides (OBL), Phalaris arundinacea (FACW); Populus tremuloides (FAC), Alnus incana (FACW), Onoclea sensibilis (FACW), Solidago rugosa (FAC), Pteridium aquilinum (FACU); Cornus alba (FACW), Carex pellita (OBL); Populus deltoides (FAC), Fraxinus

	pennsylvanica (FACW), Cornus racemosa (FAC), Cephalanthus occidentalis
	(OBL), Salix interior (FACW), Poa pratensis (FACU), Solidago gigantea (FACW), S. canadensis (FACU); Populus deltoides (FAC), Salix discolor (FACW),
	Phragmites australis (FACW), Poa palustris (FACW), Equisetum hyemale (FAC);
	Populus deltoides (FAC), Acer rubrum (FAC), Carpinus caroliniana (FAC), Fraxinus pennsylvanica (FACW), Calamagrostis canadensis (OBL), Symphyotrichum lanceolatum (FACW), Ranunculus hispidus (FAC)
Hydric Soil Indicators	Redox Dark Surface (F6); Depleted Below Dark Surface (A11), Sandy Redox (S5); Sandy Mucky Mineral (S1), Dark Surface (S7); Depleted Below Dark Surface (A11);
Hydrology Indicators	Geomorphic Position (D2), FAC-Neutral Test (D5); Crayfish Burrows (C8), Geomorphic Position (D2), FAC-Neutral Test (D5); Geomorphic Position (D2), FAC-Neutral Test (D5); Water Marks (B1), Geomorphic Position (D2), FAC-Neutral Test (D5); Crayfish Burrows (
Boundary Determination	
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 19	
Site Information	
Sampling Date	6/8/2023 (Normal Conditions)
Cowardin Class	PFO
Wetland Description	Located along the eastern project AOI boundary at the Runway 4 end, this hardwood swamp is dominated by swamp white oak (Quercus bicolor: FACW), green ash (Fraxinus pennsylvanica: FACW), cottonwood (Populus deltoides: FAC), and silver maple (Acer saccharinum: FACW). Standing water was present in the central depressional core of the wetland which continues beyond the project AOI. Water-stained leaves and crayfish burrows were observed throughout the wetland. The northern end of the wetland receives drainage from the airport side and drainage generally flows to the south to the Moak Drain.
Mapped NWI Type	PFO1A, R2UBFx
Mapped Soil Type/ Hydric Rating	Allendale-Lenawee-Toledo complex, 0 to 3 percent slopes (AtA) (Partially Hydric)
Photo Numbers**	Photos 121 - 123
Associated Data Pts***	No DPs
Map Number(s)*	7, 8
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Quercus bicolor (FACW), Fraxinus pennsylvanica (FACW), Populus deltoides (FAC), Acer saccharinum (FACW)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, Standing water, Water-stained leaves, Crayfish Burrows, FAC-Neutral Test,
Boundary Determination	
Description * See Appendix E for Wotland N	The boundary was determined by a lack of wetland hydrology indicators and distinct topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 20	
Site Information	
Sampling Date	6/8/2023 (Normal Conditions)
Cowardin Class	PFO
Wetland Description	Wetland 20 straddles the eastern project AOI boundary at the Runway 4 end and appears to be a closed depression. This hardwood swamp is dominated by silver maple (Acer saccharinum: FACW), green ash (Fraxinus pennsylvanica: FACW), cottonwood (Populus deltoides: FAC), and swamp white oak (Quercus bicolor: FACW) in the tree stratum and sensitive fern (Onoclea sensibilis: FACW) in the herb stratum. The central core of the wetland is a closed depressional basin which had standing water in it at the time of the field visit (Photo 127). Within this sparsely vegetated concave surface water-stained leaves were abundant as were water marks on the surrounding fringe of trees. The wetland continues beyond the project AOI.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Lenawee-Toledo complex, 0 to 3 percent slopes (AtA) (Partially Hydric)
Photo Numbers**	Photos 124 - 127
Associated Data Pts***	DPs 37 - 38
Map Number(s)*	7, 8
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Acer saccharinum (FACW), Populus deltoides (FAC), Quercus bicolor (FACW), Fraxinus pennsylvanica (FACW), Onoclea sensibilis (FACW)
Hydric Soil Indicators	Depleted Below Dark Surface (A11)
Hydrology Indicators	Saturation (A3), Water Marks (B1), Dry-Season Water Table (C2), Geomorphic Position (D2), FAC-Neutral Test (D5)
Boundary Determination	
Description	The boundary was determined by a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the depressional basin.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 21	
Site Information	
Sampling Date	10/6/2022 (Drier than Normal)
Cowardin Class	PFO
Wetland Description	Wetland 21 is located within the Runway 4 end of the AOI just west of the large airfield ditch. The wetland is situated within a shallow depression with a fringe of dominated by cottonwood (Populus deltoides: FAC) and green ash (Fraxinus pennsylvanica: FACW) in a relatively sparse canopy; quaking aspen (Populus tremuloides: FAC) was an important sub-dominant in the canopy. At wetland sampling point DP35, bladder sedge (Carex intumescens: FACW), calico aster (Symphyotrichum lateriflorum: FAC), and common reed (Phragmites australis: FACW) were dominant in the herb stratum. Within the central core, common reed dominates. The wetland continues to the south of the perimeter fence where cottonwood and glossy buckthorn (Frangula alnus: FAC) were dominant.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Lenawee-Toledo complex, 0 to 3 percent slopes (AtA) (Partially Hydric)
Photo Numbers**	Photos 128 - 131
Associated Data Pts***	DPs 35 - 36
Map Number(s)*	7
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Populus deltoides (FAC), Fraxinus pennsylvanica (FACW), Carex intumescens (FACW), Symphyotrichum lateriflorum (FAC), Phragmites australis (FACW)
Hydric Soil Indicators	Depleted Below Dark Surface (A11), Depleted Matrix (F3)
Hydrology Indicators	Geomorphic Position (D2), FAC-Neutral Test (D5)
Boundary Determination	
Description * See Appendix F for Wetland N	The boundary was determined by a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the depressional basin.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 22	
Site Information	
Sampling Date	6/8/2023 (Normal Conditions)
Cowardin Class	PFO
Wetland Description	Wetland 22 is located along the eastern project AOI boundary at the Runway 4 end. It is dominated by silver maple (Acer saccharinum: FACW) along with red maple (A. rubrum: FAC), elm (Ulmus americana: FAC), swamp white oak (Quercus bicolor: FACW), and green ash (Fraxinus pennsylvanica: FACW) in the tree stratum. Ferns present in the understory included sensitive fern (Onoclea sensibilis: FACW) and royal fern (Osmunda spectabilis: OBL) and slender woodreed (Cinna latifolia: FACW) and bladder sedge (Carex intumescens: FACW) were also observed. Drainage appears to flow to the southwest towards the large ditch which also drains the central airfield area. The sparsely vegetated concave depression exhibited numerous crayfish burrows as well. The wetland extends beyond the project AOI to the east.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Lenawee-Toledo complex, 0 to 3 percent slopes (AtA) (Partially Hydric)
Photo Numbers**	Photos 132 - 135
Associated Data Pts***	No DPs
Map Number(s)*	7
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Acer saccharinum (FACW), A. rubrum (FAC), Ulmus americana (FAC), Quercus bicolor (FACW), Fraxinus pennsylvanica (FACW)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, Standing water, Water-stained leaves, Water marks, FAC-Neutral Test, Crayfish burrows, Sparsely vegetated concave surface
Boundary Determination	
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators and distinct topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 23 (A, B)		
Site Information	Site Information	
Sampling Date	10/7/2022 (Drier than Normal)	
Cowardin Class	PEM/PFO	
Wetland Description	Wetland 23 is located just east of the main ditch draining the southern end of the airfield. Most of the wetland is regularly mowed and is covered by a wet meadow plant community consisting of common reed (Phragmites australis: FACW), woolly sedge (Carex pellita: OBL), Virginia blueflag (Iris virginica: OBL), smartweed (Persicaria sp.), and New England aster (Symphyotrichum novae-angliae: FACW). Crayfish burrows were present and saturated areas are visible on recent aerial photography. This part of the wet meadow wetland continues to the north inside the fence. The wetland extends to the east outside of the perimeter fence and becomes dominated by a forested community consisting of red maple (Acer rubrum: FAC), red oak (Quercus rubra: FACU), and green ash (Fraxinus pennsylvanica: FACW). Water marks and water-stained leaves were observed on the sparsely vegetated concave surface at wetland sampling point DP31 where no herbaceous layer was present. Along the fence line, several areas of inundation/standing water were noted as well as crayfish burrows.	
Mapped NWI Type	PEM5C (23A)	
Mapped Soil Type/ Hydric Rating	Allendale-Lenawee-Toledo complex, 0 to 3 percent slopes (AtA) (Partially Hydric)	
Photo Numbers**	Photos 136 - 143	
Associated Data Pts***	DPS 31 - 32	
Map Number(s)*	7	
Comments	Wet meadow/hardwood swamp	
Wetland Criteria		
Dominant Vegetation	Acer rubrum (FAC), Quercus rubra (FACU), Fraxinus pennsylvanica (FACW)	
Hydric Soil Indicators	Depleted Below Dark Surface (A11), Sandy Redox (S5)	
Hydrology Indicators	Water Marks (B1), Sparsely Vegetated Concave Surface (B8), Water-Stained Leaves (B9), Geomorphic Position (D2)	
Boundary Determination		
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the boundary.	

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 24(X)	
Site Information	
Sampling Date	N/A
Cowardin Class	RUBx
Wetland Description	Wetland 24X is a constructed steep-sided ditch located outside the airfield fence and is estimated on the basis of contours, soils, National Wetland Inventory mapping (R2UBFx), and historic aerials. This is part of the main drainage feature in the southern portion of the AOI. It receives flows from the north from areas on the airfield and ultimately flows to the Moak Drain through private property.
Mapped NWI Type	R2UBFx
Mapped Soil Type/ Hydric Rating	Allendale-Lenawee-Toledo complex, 0 to 3 percent slopes (AtA) (Partially Hydric)
Photo Numbers**	No Photos
Associated Data Pts***	No DPs
Map Number(s)*	7
Comments	Ditch (Estimated)
Wetland Criteria	
Dominant Vegetation	
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic position
Boundary Determination	
Description	The boundary is estimated on the basis of contours, soils, National Wetland Inventory mapping (R2UBFx), and historic aerials.

^{*} See Appendix F for Wetland Mapping
** See Appendix H for Photos
*** See Appendix G for Wetland Data Sheets

Site Information	
Sampling Date	10/2/2023 (Wetter than Normal)
Cowardin Class	PEM/PFO/RUBx
Wetland Description	Wetland 25 is located in the southern part of the Rwy 4 End AOI and consists of two forested areas (PFO) that drain to the south, each containing drainage ditches that connect to the Moak Drain (R2UBFx). A maintained pipeline corridor approximately 45 feet wide divides Wetland 25 in two segments - Wetlands 25A and 25B to the north of the corridor and Wetland 25D to the south of the corridor. The corridor segment (25C) is covered by emergent vegetation (PEM). The pipeline corridor both crosses the Moak Drain and bisects the larger part of Wetland 25. This corridor segment is covered by wet meadow vegetation mown recently. Standing water was present in the lowest section of the pipeline corridor (Photo 147). The Moak Drain (R2UBFx) is a constructed narrow steep-sided ditch approximately 8 – 10 feet deep which flows to the south under Gratiot Avenue. Standing water was present in the ditch at the time of the field visit (25F). Narrow interior drainage ditches flow through both forested sections of Wetland 25, connecting to Wetlands 18I to the north and Wetland 27 to the west via culverts. The forested northern arm of Wetland 25 is dominated by a woody mix consisting of American hornbeam (Carpinus carolliniana: FAC), red maple (Acer rubrum: FAC), red oak (Quercus rubra: FACU), and witch-hazel (Hamamelis virginiana: FACU) with a sparse herbaceous stratum dominated by cinnamon fern (Osmundastrum cinnamomeum: FACW), green ash saplings (Fraxinus pennsylvanica: FACW), and marsh fern (Thelypteris palustris: FACW) as seen at wetland sampling point DP59. Alder (Alnus incana: FACW) was also noted along more open areas adjacent to the interior drainage ditches. The western arm of Wetland 25(E), drained by a shallow ditch/swale to the east, was more open with red maple, red oak, elm (Ulmus americana: FACW), and American hornbeam in the tree stratum. This section of the wetland could be a former house site as vinca and day lilies were observed. The internal shallow ditch/swale flows to the east and connects to the Moak Drai
Mapped NWI Type	PEM5C (25A); R2UBFx (25A, C, D, F, F(X))
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AlA) (Partially Hydric); Latty complex, 0 to 3 percent slopes (LhA) (Partially Hydric); Borrow pits (Bp) (Nonhydric)
Photo Numbers**	Photos 144 - 153
Associated Data Pts***	DPs 59 - 60
Map Number(s)*	10
Comments	Hardwood swamp and drain
Wetland Criteria	
Dominant Vegetation	Carpinus caroliniana (FAC), Acer rubrum (FAC), Quercus rubra (FACU), Hamamelis virginiana (FACU), Osmundastrum cinnamomeum (FACW), Fraxinus pennsylvanica (FACW), Thelypteris palustris (FACW)
Hydric Soil Indicators	Depleted Below Dark Surface (A11), Sandy Mucky Mineral (S1), Sandy Redox (S5), Dark Surface (S7)
Hydrology Indicators	High Water Table (A2), Saturation (A3), Geomorphic Position (D2), FAC-Neutral Test (D5)

Boundary Determination	
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 26	
Site Information	
Sampling Date	10/3/2023 (Wetter than Normal)
Cowardin Class	PFO
Wetland Description	Wetland 26 is a shallow sparsely vegetated concave surface covered by red maple (Acer rubrum: FAC), green ash saplings (Fraxinus pennsylvanica: FACW), and elm (Ulmus americana: FACW).
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Latty complex, 0 to 3 percent slopes (LhA) (Partially Hydric)
Photo Numbers**	Photo 154
Associated Data Pts***	No DPs
Map Number(s)*	10
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Fraxinus pennsylvanica (FACW), Ulmus americana (FACW)
Hydric Soil Indicators	Observed Depleted Below Dark Surface and Sandy Mucky Mineral
Hydrology Indicators	Observed Geomorphic Position, Sparsely Vegetated Concave Surface
Boundary Determination	•
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators and distinct topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 27	
Site Information	
Sampling Date	10/3/2023 (Wetter than Normal)
Cowardin Class	PFO
Wetland Description	Wetland 27 is a depressional area that receives drainage from residences beyond airport property via two tile drains exiting at the base of a slope. An internal ditch carries flows to the east, under a two-track road via a culvert and connects to Wetland 25E where drainage eventually flows to the Moak Drain. Additional runoff flows from the south join the internal drainage ditch. The wetland is dominated by green ash (Fraxinus pennsylvanica: FACW), red maple (Acer rubrum: FAC), royal fern (Osmunda spectabilis: OBL), and fringed sedge (Carex crinita: OBL). Also present were cinnamon fern (Osmundastrum cinnamomeum: FACW) and sensitive fern (Onoclea sensibilis: FACW).
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AIA) (Partially Hydric); Borrow pits (Bp) (Non-hydric)
Photo Numbers**	Photos 155 - 158
Associated Data Pts***	No DPs
Map Number(s)*	10
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Fraxinus pennsylvanica (FACW), Acer rubrum (FAC), Osmunda spectabilis (OBL), Carex crinita (OBL)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic position, Standing water
Boundary Determination	•
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators and distinct topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping
** See Appendix H for Photos
*** See Appendix G for Wetland Data Sheets

Wetland 28	
Site Information	
Sampling Date	10/3/2023 (Wetter than Normal)
Cowardin Class	PFO
Wetland Description	Wetland 28 is located just south of the pipeline corridor and is a small shallow closed depressional hardwood swamp. Water-stained leaves were observed in the depression dominated by royal fern (Osmunda spectabilis: OBL) in the herb layer and red maple (Acer rubrum: FAC) and elm (Ulmus americana: FACW) in the tree stratum.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AIA) (Partially Hydric)
Photo Numbers**	Photos 159
Associated Data Pts***	No DPs
Map Number(s)*	10
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Ulmus americana (FACW), Osmunda spectabilis (OBL)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, Water-stained leaves, FAC-Neutral Test
Boundary Determination	
Description * See Appendix 5 for Wetland M	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators and distinct topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 29	
Site Information	
Sampling Date	10/2/2023 (Wetter than Normal)
Cowardin Class	PFO
Wetland Description	Wetland 29 is located just west of Wetland 30A, separated by a two-track road, and is a small shallow closed depressional hardwood swamp. Water-stained leaves were observed in the depression dominated by red maple (Acer rubrum: FAC), green ash (Fraxinus pennsylvanica: FACW), and swamp white oak (Quercus bicolor: FACW) in the tree stratum. A small pocket of standing water was present as well. Little herbaceous cover was present in the understory.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric)
Photo Numbers**	Photos 160 - 161
Associated Data Pts***	No DPs
Map Number(s)*	9
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Quercus bicolor (FACW), Fraxinus pennsylvanica (FACW)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Positions, Water-stained leaves, Standing water
Boundary Determination	•
Description * See Appendix F for Wetland N	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators and distinct topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Site Information	
Sampling Date	6/14/2023 (Normal Conditions), 9/26/2023 (Wetter than Normal)
Cowardin Class	PFO/PSS/PEM
Wetland Description	Wetland 30A is a large depressional hardwood swamp located north of the pipeline corridor that extends off airport property. The central core of Wetland 30A contains a scrub-shrub component (30C). More open areas support scrub-shrub wetlands (30D). Red maple (Acer rubrum: FAC) and American hornbeam (Carpinus caroliniana: FAC) are dominants in the tree stratum along with swamp white oak (Quercus bicolor: FACW) and red oak (Quercus rubra: FACU) as sub-dominants. The generally sparse herbaceous stratum was dominated by cinnamon fern (Osmundastrum cinnamomeum: FACW) and Virginia blueflag (Iris virginica: OBL) although fowl manna grass (Glyceria striata: OBL), ferns, and sedges were often seen under less closed canopy. The scrub-shrub plant community was dominated by alder (Alnus incana: FACW), red osier (Cornus alba: FACW), gray dogwood (Cornus racemosa: FAC), and willows (Salix sp.). Water-stained leaves were observed throughout the forested sections of the wetland and saturation was seen on both field visits. High water tables were also noted at the second field visit under wetter than normal conditions.
	The eastern side of the wetland receives drainage from the north via a culvert under a two-track and is connected to Wetland 18I. The northern extent of Wetland 30B continues beyond the project AOI. Wetland 30X, divided into five sections by wetland type, is the portion on private land estimated on the basis of contours, soils, NWI, field observations from adjacent property, and historic aerials. A large emergent area dominated by common reed (Phragmites australis: FACW) is outside of airport property (30(X)B) and the plant community transitions to hardwood swamp to the west (30(X)A). The pipeline corridor splits this large swamp in two with an emergent component (30(X)D) along the corridor and a smaller forested component (30(X)E) to the south of the pipeline.
Mapped NWI Type	PSS1/EM5C (30A, C); PFO1C and PSS1C (30(X)A); PEM5C (30(X)B, C); PFO1C (30B, 30(X)D); PSS1C (30(X)E)
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AlA) (Partially Hydric); Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric)
Photo Numbers**	Photos 162 - 177
Associated Data Pts***	DPs 39 - 40, 43 - 44, 51 - 52
Map Number(s)*	6, 9
Comments	Hardwood swamp, scrub-shrub; emergent (estimated)
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Populus deltoides (FAC), Iris virginica (OBL); Acer rubrum (FAC), Carpinus caroliniana (FAC), Hamamelis virginiana (FACU), Osmundastrum cinnamoneum (FACW); Populus tremuloides (FAC), Salix nigra (OBL), Poa pratensis (FACU), Doellingeria umbellata (FACW), Vitis riparia (FAC)
Hydric Soil Indicators	Sandy Mucky Mineral (S1), Dark Surface (S7); Sandy Mucky Mineral (S1), Dark Surface (S7); Depleted Below Dark Surface (A11), Depleted Matrix (F3)
Hydrology Indicators	Saturation (A3), Water-Stained Leaves (B9), Dry-Season Water Table (C2), Geomorphic Position (D2), FAC-Neutral Test (D5); High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Geomorphic Position (D2), FAC-Neutral Test (D5); High Water Table

Boundary Determination	
Description	Where delineated, the boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the boundary. Where estimated, the boundary is based on contours, soils, field observations from adjacent property, and historic aerial photos.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 31		
Site Information		
Sampling Date	10/1/2023 (Wetter than Normal)	
Cowardin Class	PFO	
Wetland Description	Wetland 31 is a depressional hardwood swamp located at the southern extent of the Rwy 4 End AOI just north of Gratiot Avenue. In the lowest section of the wetland, standing water was present to about 2 inches deep, and in other areas the concave surface was sparsely vegetated. At wetland sampling point DP55, red maple (Acer rubrum: FAC) dominated the tree stratum while green ash (Fraxinus pennsylvanica: FACW) and cherry (Prunus serotina: FACU) dominated the shrub stratum. The relatively sparse herbaceous layer was dominated by wrinkle-leaf goldenrod (Solidago rugosa: FAC) and flat-top American aster (Doellingeria umbellata: FACW). Royal fern (Osmunda spectabilis: OBL) as also present in the wetland. A high water table and saturation were observed at the sampling point. An excavated ditch (Wetland 37(X)) just to the west of the wetland likely impacts internal hydrology in this wetland. The western wetland boundary along the ditch is formed by the spoil pile left by the construction of the ditch. The wetland likely outlets at the south end to a roadside ditch.	
Mapped NWI Type	N/A	
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AIA) (Partially Hydric)	
Photo Numbers**	Photos 178 - 181	
Associated Data Pts***	DPs 55 - 56	
Map Number(s)*	9	
Comments	Hardwood swamp	
Wetland Criteria		
Dominant Vegetation	Acer rubrum (FAC), Prunus serotina (FACU), Fraxinus pennsylvanica (FACW), Solidago rugosa (FAC), Doellingeria umbellata (FACW)	
Hydric Soil Indicators	Depleted Below Dark Surface (A11), Sandy Mucky Mineral (S1), Dark Surface (S7)	
Hydrology Indicators	High Water Table (A2), Saturation (A3), Geomorphic Position (D2), FAC-Neutral Test (D5)	
Boundary Determination		
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the boundary.	

^{*} See Appendix F for Wetland Mapping
** See Appendix H for Photos
*** See Appendix G for Wetland Data Sheets

Site Information		
Sampling Date	9/26/2023 (Wetter than Normal)	
Cowardin Class	PFO/PSS	
Wetland Description	Wetland 32 consists of forested hardwood swamp and scrub-shrub sections. Within the hardwood swamp area on the western edge of the Rwy 4 End AOI (Wetland 32A), a large inundated area with standing water to about 12 inches covered most of the wooded area. This part of the wetland continues beyond the project AOI to the west. Red maple (Acer rubrum: FAC) and a variety of ferns were present. East of the tree line, Wetland 32 transitions to a shrub community (32B) dominated by young cottonwoods (Populus deltoides: FAC) and black willows (Salix nigra: FACW). The herbaceous stratum was dominated by field horsetail (Equisetum pratense: FACW), sensitive fern (Onoclea sensibilis: FACW), common reed (Phragmites australis: FACW), flat-top American aster (Doellingeria umbellata: FACW), and bracken fern (Pteridium aquilinum: FACU). Drainage appears to flow to the east; this wetland connects to Wetland 18I via a culvert under a two-track. Several large stands of common reed (Phragmites australis: FACW) were found within this portion of the wetland. Red osier (Cornus alba: FACW) and meadow willow (Salix petiolaris: FACW) were also common along the drainageways. The shrub community is confined to narrow drainages between higher parallel sand ridges.	
Mapped NWI Type	PFO1C (32A), PEM5C (32B)	
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AIA) (Partially Hydric); Wainola- Deford fine sands, 0 to 2 percent slopes (WdA) (Partially Hydric)	
Photo Numbers**	Photos 182 - 185	
Associated Data Pts***	DPs 45 - 46	
Map Number(s)*	6	
Comments	Hardwood swamp, scrub-shrub	
Wetland Criteria		
Dominant Vegetation	Populus deltoides (FAC), Salix nigra (OBL), S. discolor (FACW), Equisetum pratense (FACW), Onoclea sensibilis (FACW), Phragmites australis (FACW), Doellingeria umbellata (FACW), Pteridium aquilinum (FACU)	
Hydric Soil Indicators	Sandy Redox (S5), High Chroma Sands (S11), Depleted Below Dark Surface (A11)	
Hydrology Indicators	High Water Table (A2), Saturation (A3), Geomorphic Position (D2), FAC-Neutral Test (D5)	
Boundary Determination		
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the boundary.	

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 33	
Site Information	
Sampling Date	6/13/2023 (Normal Conditions), 9/26/2023 (Wetter than Normal)
Cowardin Class	PFO
Wetland Description	Wetland 33 is a depressional hardwood swamp along the western boundary of the Rwy 4 End AOI. It is dominated by red maple (Acer rubrum: FAC) in the tree stratum and crested sedge (Carex crinita: OBL), hop sedge (C. lupulina: OBL), and green ash saplings (Fraxinus pennsylvanica: FACW) in a sparse herbaceous layer. At the wetland sampling point DP41, saturation was encountered with a dryseason water table. However, the lower portions of the wetland contained standing water at the second field visit in September. Water marks were observed on many trees around inundated areas. The north portion of the wetland is connected to a larger area to the south via a narrow swale where another large area of standing water was observed. The wetland continues beyond the project AOI.
Mapped NWI Type	PFO1C
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AIA) (Partially Hydric)
Photo Numbers**	Photos 186 - 190
Associated Data Pts***	DPs 41 - 42
Map Number(s)*	6
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Carex crinita (OBL), C. lupulina (OBL), Fraxinus pennsylvanica (FACW)
Hydric Soil Indicators	Sandy Mucky Mineral (S1), Dark Surface (S7)
Hydrology Indicators	Saturation (A3), Water-Stained Leaves (B9), Dry-Season Water Table (C2), Geomorphic Position (D2), FAC-Neutral Test (D5)
Boundary Determination	
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the boundary.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 34(X)	
Site Information	
Sampling Date	N/A
Cowardin Class	PUBHx
Wetland Description	Field observations indicate this wetland was filled with standing water. Wetland 34(X) is located on private land and is estimated on the basis of contours, soils, National Wetland Inventory mapping (PUBHx), and historic aerials.
Mapped NWI Type	PUBHx
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AIA) (Partially Hydric)
Photo Numbers**	No photos
Associated Data Pts***	No DPs
Map Number(s)*	9
Comments	Excavated pond
Wetland Criteria	
Dominant Vegetation	
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic position
Boundary Determination	•
Description	The boundary is estimated on the basis of contours, soils, National Wetland Inventory mapping (PUBHx), and historic aerials.

^{*} See Appendix F for Wetland Mapping
** See Appendix H for Photos
*** See Appendix G for Wetland Data Sheets

Wetland 35, 35(X) (A - D) Site Information	
Cowardin Class	PFO/PEM
Wetland Description	Wetland 35 is a large expanse of hardwood swamp (35A, 35B) dominated by red maple (Acer rubrum: FAC) with cottonwood (Populus deltoides: FAC) and american hornbeam (Carpinus caroliniana: FAC) as sub-dominants. Fowl manna grass (Glyceria striata: OBL), sensitive fern (Onoclea sensibilis: FACW), and bladder sedge (Carex intumescens: FACW) dominated the herb stratum. Wetland 35 spans the pipeline corridor where vegetation is maintained on a periodic basis. These two areas within the pipeline corridor (35C, 35D) are dominated by common reed (Phragmites australis: FACW) and sedges (Carex sp.). Wetland 35 continues north of the pipeline corridor and then off airport property. Under wetter than normal conditions, pockets of standing water were seen throughout the wetland and in the pipeline corridor. However, the deep excavated ditch (Wetland 37(X)) to the west of the wetland likely affects the internal hydrology of the wetland. The spoils pile from the construction at lines formed the western wetland boundary. Wetland 35 continues to the east onto private property. Wetland 35(X), divided into three sections (A, B, and C) by wetland type, is the portion on private land estimated on the basis of contours, soils, field observations, and historic aerials.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AlA) (Partially Hydric); Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric)
Photo Numbers**	Photos 191 - 198
Associated Data Pts***	DPs 53 - 54
Map Number(s)*	9
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Prunus serotina (FACU), Hamamelis virginiana (FACU), Glyceria striata (OBL), Onoclea sensibilis (FACW), Carex intumescens (FACW)
Hydric Soil Indicators	Depleted Below Dark Surface (A11), Sandy Mucky Mineral (S1), Dark Surface (S7)
Hydrology Indicators	High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Geomorphic Position (D2), FAC-Neutral Test (D5)
Boundary Determination	
Description	Where delineated, the boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, an absence of hydric soil indicators, and distinct topographic changes along the boundary. Where estimated, the boundary is based on contours, soils, field observations from adjacent property, and historic aerial photos.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 36, 36(X) (A, B)	
Site Information	T
Sampling Date	10/1/2023 (Wetter than Normal)
Cowardin Class	PFO
Wetland Description	Wetland 36 consists of two lobes (36A and 36B) that connect outside western airport property line. The wetland is a hardwood swamp dominated by red maple (Acer rubrum: FAC), American hornbeam (Carpinus caroliniana: FAC), and royal fern (Osmunda spectibilis: OBL). A small excavated pond sits just outside of airport property and drains the northern lobe of the wetland. Wetland 36(X) is the portion of the wetland on private land estimated on the basis of contours, soils, and historic aerials.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AIA) (Partially Hydric); Rousseau fine sand, 0 to 6 percent slopes (RuB) (Predominantly Non-hydric)
Photo Numbers**	Photos 199 - 200
Associated Data Pts***	No DPs
Map Number(s)*	9
Comments	Hardwood swamp
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Caprinus caroliniana (FAC), Osmunda spectibilis (OBL)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, Water-stained leaves, Sparsely vegetated concave surface, Standing water
Boundary Determination	
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, and distinct topographic changes along the boundary. Where estimated, the boundary is based on contours, soils, field observations from adjacent property, and historic aerial photos.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 37, 37(X)	
Site Information	
Sampling Date	10/3/2023 (Wetter than Normal)
Cowardin Class	RUBX
Wetland Description	Wetland 37, delineated on airport property, is relatively shallow drainage swale that carries flows from the north. A shallow swale brings flows from the west off airport property as well. The portion of the ditch outside of airport property is a deep, 10 - 15 feet wide excavated ditch flowing from north to south. The ditch was filled with standing water on the north end (Wetland 37(X)). Much junk and debris was also present in the ditch. The spoils pile from the ditch construction forms a berm along the east side of the ditch. This ditch also affects the internal drainage of Wetlands 35B and 31. Wetland 37(X) is the portion of wetland on private land estimated on the basis of contours, soils, field observations, and historic aerials.
Mapped NWI Type	N/A
Mapped Soil Type/ Hydric Rating	Allendale-Latty complex, 0 to 3 percent slopes (AIA) (Partially Hydric)
Photo Numbers**	Photos 201 - 202
Associated Data Pts***	No DPs
Map Number(s)*	9
Comments	Ditch
Wetland Criteria	
Dominant Vegetation	Acer rubrum (FAC), Fraxinus pennsylvanica (FACW), Solidago rugosa (FAC), Doellingeria umbellata (FACW)
Hydric Soil Indicators	N/A
Hydrology Indicators	Observed Geomorphic Position, Water-stained leaves, Standing water
Boundary Determination	•
Description	Where delineated, the boundary was determined by a lack of wetland hydrology indicators and distinct topographic changes along the ditch profile. Where estimated, the boundary is based on contours, soils, field observations from adjacent property, and historic aerial photos.

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets

Wetland 38		
Site Information	Site Information	
Sampling Date	6/15/2023 (Normal Conditions)	
Cowardin Class	PFO	
Wetland Description	Located at the northern extent of the Rwy 22 End AOI, this hardwood swamp is a shallow depression dominated by red maple (Acer rubrum: FAC), fowl manna grass (Glyceria striata: OBL) and star sedge (Carex radiata: FAC). Multiple dead ashes were also noted.	
Mapped NWI Type	N/A	
Mapped Soil Type/ Hydric Rating	Allendale-Hoytville complex, 0 to 6 percent slopes (AhB) (Partially Hydric)	
Photo Numbers**	No Photos	
Associated Data Pts***	No DPs	
Map Number(s)*	2	
Comments	Hardwood swamp	
Wetland Criteria		
Dominant Vegetation	Acer rubrum (FAC), Glyceria striata (OBL), Carex radiata (FAC)	
Hydric Soil Indicators	N/A	
Hydrology Indicators	Observed Geomorphic Position, Water-stained leaves	
Boundary Determination		
Description	The boundary was determined by a transition to upland vegetation, a lack of wetland hydrology indicators, and distinct topographic changes along the boundary.	

^{*} See Appendix F for Wetland Mapping

** See Appendix H for Photos

*** See Appendix G for Wetland Data Sheets



BRAUNA HARTZELL, GISP, PWS GEOGRAPHIC INFORMATION SYSTEM (GIS) ANALYST/ WETLANDS SCIENTIST

EXPERIENCE (GIS)

Brauna Hartzell has more than 20 years of experience applying GIS software and database design techniques to support wetlands and water resources, historic preservation, community planning, transportation, aviation and military planning, and municipal infrastructure and storm water management. She has worked extensively with GIS and mapping software including ArcGIS desktop and ARC/INFO workstation and has specialized experience with 3D Analyst, Network Analyst and Spatial Analyst. She also collects environmental field data using hand-held GPS units and post-processes information for inclusion in databases and use in spatial analyses. Brauna collaborates with personnel from multiple disciplines to solve complex spatial problems through scripting and spatial analysis to deliver results and data for project-specific needs. She utilizes geoprocessing models, Python, and VBA to meet analytical needs of projects.

Brauna is experienced with GIS-related data submittal requirements associated with the Federal Energy Regulatory Commission (FERC) and the Federal Aviation Administration (FAA) data standardization initiatives. She has extensive experience developing Geodatabases with the Spatial Data Standards for Facility, Infrastructure, and Environment (SDSFIE) standard and creating Federal Geographic Data Committee (FGDC)-compliant metadata.

Brauna has specialized experience with using 3D data formats for spatial analysis, contour generation and manipulation, and geospatial modeling. She is adept in the use of LiDAR-derived data and DTMs in support of hydrology and hydraulic analyses. Additionally, she has extensive experience with SSURGO databases and the National Hydrography Dataset.

EXPERIENCE (WETLAND/ENVIRONMENTAL)

Brauna Hartzell has more than twenty years of experience in wetland delineation, wetland permitting, and restoration projects. She performs wetland and field delineations conforming to current United States Army Corps of Engineers (USACE) guidance including the Midwest and Northcentral and Northeast Regional Supplements and State standards, designs custom field data collection applications, collects field data using hand-held Global Positioning Systems (GPS) data collectors and tablets, and prepares National Environmental Policy Act (NEPA) documentation. Brauna has successfully guided numerous projects through the Section 404 permitting process.

Brauna has performed numerous wetland delineations in Wisconsin, Minnesota, and Michigan since 2002. Work included conducting the delineation, documenting field investigations and site conditions, creating wetland boundary maps, and report writing. She conducts wetland mitigation site monitoring according to established site-specific assessment protocols, performs vegetation surveys, and analyzes and presents field collected data in graphical and tabular form. She also assists in mitigation site design and construction specifications development.



Areas of Expertise

- Geographic Information Systems (GIS)
- Remote-sensing image processing
- Digital mapping
- Database design
- Wetland delineation and permitting

Education

- MS, Environmental Monitoring, 1994, University of Wisconsin, Madison
- BS, Biological Science, 1982, Florida State University, Tallahassee, Florida

Certificates

 Ecological Restoration Certificate (5-3.0 CEU classes), Restoring Minnesota Ecological Restoration Training Cooperative program, 2020

Registration/Certification

- Certified GIS Professional (GISP), GIS Certification Institute
- Professional Wetland Scientist (PWS), Society of Wetland Scientists
 Professional Certification Program (SWSPCP)

Training and Seminars

- Critical Methods in Delineation,
 University of Wisconsin-LaCrosse,
 2007, 2008, 2009, 2017, 2018, 2019,
 2020, 2021, 2022, 2023, 2024
- Conservation Biology, University of Wisconsin-Madison, Spring 2021
- Grasses, Sedges, and Rushes Workshop, University of Wisconsin– LaCrosse, 2017
- Wildlife Inventory and Monitoring Workshop, University of Wisconsin – Milwaukee, 2015
- Advanced Wetland Delineation Workshop, University of Wisconsin – LaCrosse, 2007
- Basic Hydric Soil Identification Workshop, University of Wisconsin – LaCrosse. 2005
- Wetlands Ecology, University of Wisconsin – Madison, Spring 2003
- Vascular Flora of Wisconsin, University of Wisconsin – Madison, Spring 2002

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RELATED PROJECTS (WETLANDS)

Wetland Delineation, Oakland Southwest Airport, Oakland County, 2023 Michigan Bureau of Aeronautics

New Hudson, Michigan

Lead Wetland Delineator. Brauna served as lead wetland delineator in support of an environmental assessment of proposed obstructions clearing to facilitate clear approach and departure paths, and to enhance safety at the airport. Brauna completed a wetland delineation and biological resources survey in support of environmental documentation for the proposed project. The area of interest is approximately 45 acres and resulted in the delineation of four wetlands on Airport property. Additional areas outside of Airport property were examined where access permission was received. One additional wetland and four estimated wetlands were mapped. Wetland types encountered include fresh wet meadow, shrub-scrub, and forested wetland. Brauna also completed NEPA documentation for wetlands.

Wetland Delineation, Airlake Airport Dakota County, 2022 Metropolitan Airports Commission

Lakeville, Minnesota

Lead Wetland Delineator. Brauna served as lead wetland delineator in support of an environmental assessment for proposed airfield improvements at the Airport that include modifying the location of the runway ends to increase the existing declared distances, reconstructing the existing runway, and extending the runway and associated taxiways. The area of interest is approximately 164 acres is size and resulted in the delineation of twelve wetlands. An ordinary high water mark determination was completed for a previously re-aligned segment of tributary on the airfield. Wetland types encountered include emergent seasonally-flooded basins, fresh (wet) meadows, and shallow marsh. An off-site hydrology assessment using historic aerial photographs supported field assessment of farm fields within the study area. Brauna also completed NEPA documentation for wetlands.

Wetland Delineation, Chippewa Valley Regional Airport, 2022 Wisconsin Bureau of Aeronautics Eau Claire, Wisconsin

Lead Wetland Delineator. Brauna served as lead wetland delineator in support of environmental documentation for a proposed wildlife perimeter fence replacement/extension and selective clearing project on Airport owned lands in the city of Eau Claire. The existing perimeter fence will be replaced with USDA-APHIS-WS/FAA recommended 10-foot chain link wildlife exclusion fencing. The Airport will also clear several areas of brush and stumps to establish turf vegetation to more easily maintain the area and to enhance wildlife control. The proposed fence corridor was surveyed for wetlands and streams and areas proposed for clearing were examined. Twelve wetlands were identified within the project AOI. Wetland types encountered include forested, fresh wet meadow and shrub-scrub wetlands.

Conservation Easement Baseline Biological Survey, 2021 Houghton County Airport Calumet, Michigan

Lead Environmental Scientist. To mitigate for wetland impacts relating to a clearing project at the Airport, the Houghton County Memorial Airport will create a conservation easement for a 40-acre parcel owned by Houghton County. Brauna was lead environmental scientist responsible for overseeing and assisting with field work by a botanist and report and map creation. A Floristic Quality Assessment was performed by conducting a meander survey and collecting species cover data at eight permanent quadrat locations. The baseline report detailed field work to assess and document the 40-acre parcel as a high-quality Wooded Dune and Swale complex for creation of a conservation easement. Brauna coordinated with

- Grasses: Identification and Ecology Workshop, University of Wisconsin – Milwaukee workshop, 2002
- Basic Wetland Delineation Workshop,
 University of Wisconsin–LaCrosse, 2002

Training and Seminars

 GPS Field Collection Techniques Training Workshop for Trimble GeoXH, Seiler Instruments

Past Employment

- Information Management Systems, Inc.
- Adult Communities Total Services, Inc.
- Archeological Assessments, Inc.
- University of Wisconsin Madison

No. of Years With Mead & Hunt

■ Hired 08/28/1992

No. of Years With Other Firms

■ Four



the Michigan Office of Environment, Great Lakes, and Energy (EGLE) to complete all necessary field requirements for the preservation of this rare plant community type.

Wetland Delineation, STH 162 Vernon and La Crosse Counties, 2021 Wisconsin Department of Transportation Madison, Wisconsin

Lead Wetland Delineator. Brauna was lead wetland delineator in support of culvert, beam guard, and surface upgrades for a 5.6 mile stretch of State Trunk Highway (STH) 162 in Vernon and LaCrosse Counties. The project corridor extended from Coon Valley to STH 33. The area of interest consisted of the full length of the project corridor and selected areas requiring culvert and beam guard upgrades. The delineation resulted in the delineation of four wetlands. Stream assessments and Ordinary High Water Mark (OHWM) determinations were completed at two bridges within the Coon Valley municipal limits. Wetland types encountered include fresh wet meadow and shrub-scrub wetlands delineated in association with stream crossings or adjacent floodplains.

Wetland Delineation, STH 162 Vernon County, 2021 Wisconsin Department of Transportation Madison, Wisconsin

Lead Wetland Delineator. Brauna was lead wetland delineator in support of culvert, beam guard, and surface upgrades for a 6.9 mile stretch of State Trunk Highway (STH) 162 in Vernon County. The project corridor extended from Stoddard to Chaseburg. The area of interest consisted of the full length of the project corridor and selected areas requiring culvert and beam guard upgrades. The delineation resulted in the delineation of nine wetlands. Stream assessments for five streams were completed. Wetland types encountered include fresh wet meadow wetlands delineated in association with stream crossings or adjacent floodplains.

Wetland Delineation, STH 29 Clark County, 2021 Wisconsin Department of Transportation Madison, Wisconsin

Lead Wetland Delineator. Brauna was lead wetland delineator in support of proposed culvert and beam guard upgrades for a 15.1 mile stretch of State Trunk Highway (STH) 29 in Clark County. The area of interest consisted of separate investigation areas at selected culvert and beam guard locations and all local road intersections which resulted in the delineation of 104 wetlands. Wetland types encountered include fresh wet meadows, forested wetlands, and riparian wetlands associated with four major stream crossings.

Wetland Delineation, 2020 Rochester International Airport Rochester, Minnesota

Lead Wetland Delineator. Brauna served as lead wetland delineator in support of an environmental assessment for a proposed extension of Runway 2/20 and associated Taxiway A, along with other connected actions including the realignment of navigational equipment. The area of interest is approximately 712 acres is size and resulted in the delineation of thirty-eight wetlands. Wetland types encountered include emergent seasonally-flooded basins, and forested and fresh (wet) meadows. An off-site hydrology assessment using historic aerial photographs supported field assessment of farm fields within the study area. Agricultural areas were examined resulting in the delineation of two farmed wetlands. Brauna also completed NEPA documentation for wetlands and lead wetland permitting efforts.



Wetland Delineation, W.K. Kellogg Airport, 2020 W.K. Kellogg Airport Battle Creek, Michigan

Lead Wetland Delineator. Brauna served as lead wetland delineator in support of an environmental documentation for a proposed road realignment to facilitate hangar development and other support services at the airport. The area of interest is approximately 52 acres is size and resulted in the delineation of six wetlands. Wetland types encountered include emergent seasonally-flooded basins and one emergent/forested wetland.

Joint Individual Permit – USACE Approval, 2019 Reconstruction and Extension of Runway 7L/25R and Taxiway A Kenosha Regional Airport Kenosha, Wisconsin

The proposed project includes the reconstruction and extension of Runway 7L/25R and Taxiway A at the Airport. Other actions proposed include improving the approach minimums to Runway 25R, bringing the geometries of these pavements into conformance with current standards, acquiring land and performing obstruction removal to provide clear approach and departure operations, and relocating navigational instruments and edge lighting / signage to correspond with the proposed pavement limits. Approximately 2.5 acres of wetland fill are necessary to achieve project needs. Brauna served as the lead preparer of the individual permit application which included a Practicable Alternatives Analysis.

Wetland Delineation and Biological Resources Survey, 2019 Ann Arbor Municipal Airport Ann Arbor, Michigan

Brauna served as lead wetland delineator in support of an environmental assessment for a proposed extension of Runway 6/24 and associated Taxiway A, along with other connected actions including the removal of decommissioned navigational equipment. The area of interest is approximately 82 acres is size and resulted in the delineation of three wetlands and one stream. Habitat for identified threatened and endangered species was assessed during field work. Wetland types encountered include emergent seasonally-flooded basins and one stream approximately 300 ft long within the project area of interest.

Wetland Delineation and Biological Resources Survey, 2019 Kalamazoo-Battle Creek International Airport Kalamazoo, Michigan

Brauna served as lead wetland delineator in support of an environmental assessment for a proposed extension of Runway 17/35 and improvement of airfield movement by correcting geometry deficiencies associated with the intersection of Taxiway C and Runway 17. The area of interest is approximately 246 acres is size and resulted in the delineation of seven wetlands. Habitat for identified threatened and endangered species was assessed during field work. Wetland types encountered include emergent seasonally-flooded basins and a large complex with multiple community types within the project area of interest.

Wetland Delineation and Biological Resources Survey, 2019 Ontonagon County Airport Ontonagon, Michigan

Brauna served as lead wetland delineator in support of an environmental assessment for a proposed obstruction clearing for Runway 17/35. The area of interest is approximately 127



acres is size and resulted in the delineation of thirty-one new wetlands and re-examination of seven previously delineated wetlands. Habitat for identified threatened and endangered species was assessed during field work. Wetland types encountered include emergent seasonally-flooded basins, forested and scrub-shrub wetlands within the project area of interest.

Wetland Delineation and Biological Resources Survey, 2019 Houghton County Airport Calumet, Michigan

Brauna served as lead wetland delineator in support of an environmental assessment for obstruction clearing for the Runway 25 approach and RPZ, removal of an existing farm pond, and reestablishment of a regulated stream. The parcel was recently acquired by the Airport. The area of interest is approximately 23 acres is size and resulted in the delineation of four wetlands, one stream, and one small pond. Habitat for identified threatened and endangered species was assessed during field work. Wetland types encountered include an emergent seasonally-flooded basin, three forested wetlands, and a 1-acre pond with multiple community types within the project area of interest.

Joint Individual Permit – USACE Approval, 2018 Construction of Production and Logistics Facility Haribo of America Pleasant Prairie, Wisconsin

The proposed project includes construction of a production and logistics facility with visitor and employee parking, warehousing capability, and other amenities. 0.6 acres of wetland fill will be necessary to achieve project needs. Brauna served as the lead preparer of the individual permit application which included a Practicable Alternatives Analysis.

Wetland Delineation, W.K. Kellogg Airport, 2018 W.K. Kellogg Airport Battle Creek, Michigan

Brauna served as lead wetland delineator in support of an environmental assessment for proposed grading and site improvements to facilitate hangar development and other support services at the airport. The area of interest is approximately 180 acres is size and resulted in the delineation of six wetlands. Wetland types encountered include emergent seasonally-flooded basins and aquatic bed wetlands.

Wetland Delineation, Crystal Airport, 2018 Metropolitan Airports Commission Brooklyn Center, Minnesota

Brauna served as lead wetland delineator in support of alternatives analysis for an environmental assessment for proposed airfield improvements. The area of interest is approximately 50 acres is size spread over eight areas and resulted in the delineation of seven wetlands. Wetland delineated consisted of emergent Type 1 seasonally-flooded basins.







CAROLINE BRUCHMAN

GIS ANALYST

Areas of Expertise

- Geographic Information Systems (GIS)
- Environmental and cultural resources mapping and data analysis
- NEPA Compliance
- Transportation planning
- Web based mapping

Education

- MS, Geographical Sciences, University of Maryland, 2018
- BS, Geographical Sciences, University of Maryland, 2017

Past Employment

- Sabra & Associates, Inc.
- University of Maryland, College Park

Training and Seminars

 Basic Wetland Delineation Online with Field Practicum, Wetland Training Institute (WTI) – 2020

No. of Years with

Mead & Hunt

■ Hired 08/01/2019

No. of Years with Other Firms

1

Caroline Bruchman specializes in Geographic Information Systems (GIS) mapping and environmental resource inventories through GIS desktop and/or field reviews. She coordinates with resource and regulatory agencies, preparing technical reports, identifying avoidance, minimization, and mitigation strategies. She also assists in coordinating with the public and other stakeholders and preparing environmental documentation to obtain location approval. Caroline is experienced with National Environmental Policy Act (NEPA)/ Massachusetts Environmental Policy Act (MEPA), Section 4(f) of the Department of Transportation Act, Section 106 of the National Historic Preservation Act, and Section 7 of the Endangered Species Act (ESA). Aside from her environmental experience, she is skilled in various GIS and analysis programs including the ESRI software suite, QGIS, and Tableau. She is detail-oriented implementing quality control and quality assurance workflows and in creating strong cartographic designs for paper, digital, and online mapping platforms including ArcGIS Online web mapping.

PROJECT EXPERIENCE (CULTURAL RESOURCES)

Rochester Bus Rapid Transit (BRT) Phase I and II Survey and Evaluation City of Rochester

Rochester, Minnesota

GIS Analyst. Mead & Hunt is completing cultural resources studies for the proposed Rochester BRT project in Olmsted County. Work completed to date includes defining the architecture/history area of potential effect (APE); developing a historic context that covers themes along the corridor; Phase I reconnaissance-level architecture/history survey of over 70 resources; and Phase II Evaluations for five resources. Caroline set up the GIS-based field survey application, prepared survey report maps, and compiled GIS deliverables.

Reconnaissance and Intensive Historic Resources Surveys, Section 4(f) Evaluations, Interstate Highway 35, Capital Express Central

Texas Department of Transportation (TxDOT) Environmental Affairs Division Austin, Texas

GIS Analyst. TxDOT's Environmental Affairs Division retained Mead & Hunt to complete historic resources surveys for the Interstate Highway (I-) 35 Capital Express Central project in Austin, Texas. The project area comprises of an eight-mile corridor along I-35 through central Austin and a two-mile segment along East Cesar Chavez Street. Caroline set up the GIS-based field survey application, prepared survey report maps, and compiled GIS deliverables.

Section 106 Compliance US Highway 6 and Heritage Parkway City of Golden

Golden, Colorado

GIS Analyst. The Colorado Department of Transportation (CDOT) required determinations of National Register of Historic Places (National Register) eligibility and effects for the U.S. Highway 6 and Heritage Road interchange improvements project. Because of federal funding, the project qualifies as a federal undertaking and therefore requires compliance with Section 106 of the National Historic Preservation Act of 1966. Caroline completed site form maps and APE maps.



Historic Context Latino/Mexican American/Chicano History of Denver City and County of Denver Community Planning and Development Denver, Colorado

GIS Analyst. The City and County of Denver Community Planning and Development hired Mead & Hunt to develop the first historic context for underrepresented groups in Denver, focused upon the city's Latino/Mexican American/Chicano history. Caroline performed GIS mapping of historical research and assisted with the online mapping tool for community input.

State Highway (SH) 115 Colorado Springs to Penrose Reconstruction Colorado Department of Transportation (CDOT) Region 2 El Paso and Fremont Counties, Colorado

GIS Analyst. Mead & Hunt completed Office of Archaeology and Historic Preservation (OAHP) linear site forms for two segments along State Highway (SH) 115, one in El Paso County and one in Fremont County, as well as area of potential effect (APE) maps for two project areas along SH 115. Caroline completed APE maps for both projects, as well as linear site form maps for SH 115 in El Paso and Fremont Counties.

US 401 Interchange Section 106

North Carolina Department of Transportation (NCDOT)

Fuquay-Varina, North Carolina

GIS Analyst. Caroline served as the GIS technician and oversaw production of GIS and mapping deliverables for the project corridor and specific historic property boundaries. The project included proposed improvements to the existing intersection of U.S. Highway (US) 401, North Carolina (NC) 42, and NC 55 in the City of Fuquay-Varina, North Carolina, located in the southwestern part of Wake County. As a continuation of a previous Building Inventory completed in 2020, Mead & Hunt carried out intensive historical architectural evaluations of five properties that were either listed in the National Register of Historic Places (National Register), previously determined eligible, or had been recommended for further study.

Historic Properties Geographic Information Systems (GIS) Database Development Minnesota Department of Transportation (MnDOT) Cultural Resources Unit (CRU) Statewide, Minnesota

GIS Analyst. Caroline developed a historic properties GIS database of approximately 85,000 properties from MnDOT historic properties shapefiles and a Microsoft Access database of historic properties provided by the State Historic Preservation Office (SHPO). Geospatial data was created through geocoding and XY events using UTM coordinates.

Phase IA Survey, Osceola Bridge Replacement Project
Minnesota Department of Transportation (MnDOT) Cultural Resources Unit (CRU)
Osceola, Minnesota

GIS Analyst. Caroline was responsible developing Area of Potential Effect (APE) mapping for the proposed Osceola Bridge replacement project. The bridge spans the St. Croix River and connects Wisconsin and Minnesota. Caroline used relevant parcel and historic property data, and the APE was delineated based on proposed environmental activities.

Riverview Corridor Modern Streetcar Ramsey County Ramsey and Hennepin Counties, Minnesota



GIS Analyst. Caroline compiled a list of historic properties with National Register of Historic Places (NRHP) eligible, NRHP listed, locally listed, CEF, or SEF historic status in the Riverview Streetcar study area. She created a map series highlighting properties inside of Fort Snelling and in Hennepin County.

Section 106 Compliance, STH 60
Wisconsin Department of Transportation (WisDOT)
Lodi, Wisconsin

GIS Analyst. Caroline was responsible for creating a mapping for the Lodi Canning Company Determination of Eligibility (DOE), which identifies individual buildings within the overall complex in relation to the project corridor. She also digitized existing buildings and land cover; and created the survey and United States Geological Survey (USGS) maps for project submittal.

Louisiana Historic Bridge Survey Louisiana Department of Transportation and Development (LADOTD) Statewide, Louisiana

GIS Analyst. Caroline was responsible for cleaning and organizing historic bridge data in Louisiana. She formatted an ArcGIS Collector application to collect data and photographs for historic bridges in Louisiana.

Section 106 Compliance, STH 33
Wisconsin Department of Transportation (WisDOT)
Baraboo, Wisconsin

GIS Analyst. Caroline geolocated recent and newly surveyed properties along the STH 33 corridor in Baraboo, Wisconsin. The properties and corridor were mapped in a series at a low scale to enhance aerial photography and included in the Architecture/History Survey Report (A/HSR).

PROJECT EXPERIENCE (TRANSPORTATION)

Total Maximum Daily Load

Maryland Department of Transportation (DOT) State Highway Administration (SHA) Maryland

GIS Analyst. Caroline was responsible for mapping, data analysis, and documentation of environmental impacts related to the TMDL program, highway design projects, system preservation program, major capital projects, and other programs.

Environmental Impacts Analysis and Mapping Maryland DOT SHA Maryland

GIS Analyst. Caroline provided project mapping, analysis, and documentation for environmental compliance, including categorical exclusions, wetland impacts, and historic preservation. Tasks also included GIS data analysis and mapping in SHA's E-GIS system.

KIMBERLY SHANNON ENVIRONMENTAL SCIENTIST

Kimberly Shannon is an environmental scientist with over 14 years of experience. Over the years she has gained professional experience in coordinating and completing a variety of project types including transportation, oil and gas, commercial development, local government, and nuclear. She has honed her regulatory and technical skills while providing excellent service to diverse clients. Her technical expertise and strongest skills as a consultant include the identification, mapping, and delineation of streams and wetlands; 404 permitting and compensatory mitigation; United States Army Corps of Engineers (USACE) regulatory coordination and assisting various clients through the 404 permitting process. Kimberly also has professional experience in the preparation and coordination of environmental assessment and categorical exclusion documents in support of the National Environmental Policy Act (NEPA) process, habitat evaluation for threatened and endangered species, bird surveys, proposal writing and pricing, technical writing and editing, training junior staff, and working with other project managers, colleagues and clients to achieve project goals and objectives in a timely and cost-effective manner.

Her professional experience prior to consulting includes working for a non-profit conservation organization and running the Oklahoma Natural Areas Registry program. She worked with private landowners throughout Oklahoma to identify and evaluate rare and protected species and their habitat so that voluntary protection agreements could be established.

CURRENT PROJECTS

Biological Assessment and Mitigation Planning for 404 Permit Private Client

Atoka County, OK

Kimberly and other staff are assisting a client with the 404 permit comments from state and federal agencies by undertaking and coordinating an alternatives analysis, a mitigation plan for multiple miles of stream impacts, an adaptive management plan for the mitigation site, surveys for threatened and endangered species, a biological assessment report and agency coordination.

Delineation of Waters of the U.S. and 404 Permit

City of Atoka

Atoka, OK

Kimberly and staff are delineating streams and wetlands at a 300+ acre commercial site for a pending project. A delineation report will be prepared and used to complete a general 404 permit for the client. Mitigation may also be required.

PAST PROJECTS

Wetland Delineations Ontonagon County Airport - Schuster Field Ontonagon County, MI

Kimberly assisted with the assessment of potentially jurisdictional wetlands at Schuster Field during June 2019 and August 2016. Wetlands were assessed for hydrology, hydrophytic vegetation and hydric soils based on USACE guidelines and the



Areas of Expertise

- Stream and wetland delineation
- Permitting and licensing
- NEPA
- Project management
- Regulatory compliance
- Environmental Assessments
- Environmental Reports

LinkedIn url

https://www.linkedin.com/pub/kimberlyshannon/29/412/a38

Education

- MS, Applied and Natural Science, Oklahoma State University, 1997
- BS, Biology, Oklahoma State University, 1004
- Certificate, GIS, Tulsa Community College, 2010

No. of Years with Mead & Hunt

■ Hired 05/04/2015

No. of Years with Other Firms

= 10

Mead**&**Hunt

12/15/16 1

KIMBERLY SHANNON (CONTINUED)

Northcentral and Northeast supplement to the 1987 guidelines. Boundaries of wetlands were mapped using sub-meter accurate GPS technology.

Oka' Yanahli Preserve Waters of the U.S. Delineations Oklahoma Chapter of The Nature Conservancy Johnston County, OK

Kimberly and other staff completed the identification and delineation of multiple intermittent and ephemeral streams, ponds and wetlands within The Nature Conservancy's eastern portion of the Oka' Yanahli preserve. Within a 575-acre portion of the larger 3,120 acre preserve, over 17,000 linear feet of potentially jurisdictional streams were delineated and mapped using sub-meter accurate Trimble GPS technology. A report with figures and shapefiles were included in the deliverables for this project. The delineation was performed in support of The Nature Conservancy's stream enhancement and restoration efforts as part of ongoing mitigation projects for ODOT and future mitigation projects.

Threatened & Endangered Species Surveys, EC 1923 Oklahoma Department of Transportation Statewide, Oklahoma

Kimberly and a subconsultant will be completing Bald Eagle surveys for ODOT at 90+ project sites in 29 eastern Oklahoma counties during January 2018. Specific reports will be prepared and provided to ODOT.

Mitigation Coordination for Oklahoma Department of Transportation with Multiple Agencies, EC 1660, 2015-2016 Oklahoma Department of Transportation Statewide, Oklahoma

Kimberly assisted ODOT with the coordination of various mitigation projects across Oklahoma. As part of this contract she is working directly with the USACE, other consultants, and the Oklahoma Chapter of The Nature Conservancy.

Mitigation Plan, Durant Bypass, May 2010-2015 Oklahoma Department of Transportation Durant, Oklahoma

Kimberly prepared a compensatory mitigation plan for a 404 permit in support of ODOT's bypass loop around US70 in Durant, Oklahoma. She coordinated with the United States Army Corps of Engineers, ODOT, subcontractors, and the City of Durant during the project.

Delineation, Reporting, and 404 Permitting, November 2011-September 2012 QuikTrip Corporation

Muskogee, OK and Dallas/Fort Worth Metroplex

Kimberly led and completed multiple delineations, protected species habitat evaluations, reporting efforts, and 404 permitting (NWP39) including mitigation bank and agency coordination for the client.

Local Government Contract for Statewide County Road and Bridge Projects Oklahoma Department of Transportation Statewide Oklahoma

These similar county-level projects included the delineation of potentially jurisdictional waterbodies, assessment of potential habitat for federally protected species, reporting efforts, the completion of project specific NEPA clearance documents, tribal coordination, and coordination with ODOT contacts and county commissioners.



KIMBERLY SHANNON (CONTINUED)

Chitwood/Sholem Lateral Pipeline Right-of-Way Assessments, Reports and 404 Permitting, April-August 2012

DCP Midstream, LLC

Jefferson County, Oklahoma and Clay and Jack Counties, Texas

Kimberly classified over 189 waterbodies along 31.5 miles of pipeline ROW. She reviewed all ROW feature maps and coordinated field data for the presence of potentially jurisdictional waters and potential threatened and endangered species habitat. Kimberly classified and coordinated mapping efforts with GIS professionals and the client to assist with horizontal directional drilling (HDD) boring locations to avoid or minimize impacts to waterbodies. These data were used to complete delineation reports, 404 permitting (NWP12) and to prepare engineering alignment sheets. As appropriate, Kimberly coordinated directly with the Tulsa and Fort Worth District Regulatory Branch of the USACE for the timely completion and issuance of NWP12. She worked directly with the client's environmental project manager to assist with reroutes and attended alignment sheet review meetings.

Southern Hills Natural Gas Liquids Trunk Line ROW Assessments, Reports and 404 Permitting, December 2011-July 2012

DCP Midstream, LLC

Multiple Oklahoma Counties

Kimberly reviewed and classified over 500 waterbodies along approximately 260 miles of pipeline right-of-way. This project scope was comparable to the project above.

Pipeline Project Coordination and Reporting, August 2014 DCP Midstream, LLC Ozona, Texas

This was a very fast-paced project for a natural gas gathering pipeline project in Crockett County, Texas in which Kimberly coordinated field work and reporting and completed 404 and floodplain permitting with state and federal agencies for the client.

Comanche Peak Nuclear Power Plant, 2006-2008 Luminant Generation Company Glen Rose, Texas

Kimberly was part of a terrestrial ecology team that conducted field surveys and wrote sections of an environmental report (ER) in support of a combined license application (COL). She performed habitat assessments for federal and state threatened and endangered (T&E) species, vegetation mapping and calculation of percent cover by plant species, and wetland delineations both at the power plant and along water pipeline ROWs. She assisted the aquatic ecology team with fish surveys, water data, and invertebrate surveys. Kimberly participated in two Nuclear Regulatory Commission site audits and performed quality control of references for the ER and Final Safety Analysis Report (FSAR).

