

Letter of Notification for the South Canton – Sunnyside 138 kV Transmission Line Project



An **AEP** Company

BOUNDLESS ENERGY™

PUCO Case No. 23-0474-EL-BLN

Submitted to:
The Ohio Power Siting Board
Pursuant to Ohio Administrative Code
Section 4906-6-05

Submitted by:
AEP Ohio Transmission Company, Inc.

May 12, 2023

LETTER OF NOTIFICATION FOR THE SOUTH CANTON – SUNNYSIDE 138 KV TRANSMISSION LINE PROJECT

Letter of Notification

**AEP Ohio Transmission Company, Inc.
South Canton - Sunnyside 138 kV Transmission Line Project**

4906-6-05

AEP Ohio Transmission Company, Inc. (“AEP Ohio Transco” or the “Company”) is providing the following information to the Ohio Power Siting Board (“OPSB”) in accordance with the accelerated application requirements of Ohio Administrative Code (“OAC”) Section 4906-6-05.

4906-6-05(B) General Information

B(1) Project Description

The applicant shall provide the name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a Letter of Notification or Construction Notice application.

The Company proposes to construct the South Canton - Sunnyside 138 kilovolt (“kV”) Transmission Line Project (the “Project”) in Stark County, Ohio. The Project consists of rebuilding approximately 5.4 miles of the existing Philo-Canton 138 kV Transmission Line (South Canton – Sunnyside) primarily within the existing right-of-way (“ROW”) between Structure 282 (approximately 2,100 feet east of the South Canton Substation) and the existing Sunnyside Substation. The existing steel lattice towers will be replaced with steel monopoles. Additional steel monopoles will be necessary along portions of the transmission line that require a reduced ROW. The location of the Project is shown on a United States Geological Survey (“USGS”) topographic map as **Figure 1** in **Appendix A**.

The Project meets the requirements for a Letter of Notification (“LON”) because it is consistent with Item (2)(b) of 4906-1-01 *Appendix A Application Requirement Matrix For Electric Power Transmission Lines* as it is replacing structures with a different type of structure for more than 2 miles. Item (2)(b) of 4906-1-01 *Appendix A* states:

(2) Adding new circuits on existing structures designed for multiple circuit use, replacing conductors on existing structures with larger or bundled conductors, adding structures to an existing transmission line, or replacing structures with a different type of structure, for a distance of:

(b) More than two miles.

The Project has been assigned PUCO Case No. 23-0474-EL-BLN.

B(2) Statement of Need

If the proposed project is an electric power transmission line or natural gas transmission line, a statement explaining the need for the proposed facility.

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The Company proposes to rebuild nine miles of aging 138 kV transmission lines in the Canton, Ohio area to address equipment material condition, performance, and risk needs. The Philo-Canton 138 kV Transmission Line (South Canton – Sunnyside), the subject of this filing, was constructed in 1923 and most structures, conductors, and hardware are original. Insulator assemblies are showing corrosion and deterioration, which could lead to failures, power outages, and safety hazards. Current open conditions include broken insulators and disconnected ground wire.

The Philo-Torrey 138 kV Transmission Line (South Canton – Torrey) was constructed in 1942 and the transmission line does not meet current grounding and shielding requirements due to the condition and advanced age of the original shield wire, the obsolete wire size (159 ACSR), and the inadequate line shielding angle. The line is grounded with grillage foundations, which do not meet current Company standards. Current open conditions include broken suspension insulators and missing signage. The Philo-Torrey 138 kV Transmission Line (South Canton – Torrey) will be filed under a separate case number, No. 23-0475-EL-BLN.

The overall deterioration of the two transmission lines is an indicator of the need to rebuild the assets rather than conduct repairs. Retirement of these lines is not feasible because a portion of the Philo-Canton 138 kV Transmission Line directly serves the Faircrest Street distribution substation, which serves over 2,700 local AEP Ohio customers. In addition, the Philo-Torrey 138 kV Transmission Line provides a critical source to two customers which serve upwards of 240 MW of industrial load and serve as a major employer for the area. Failure to move forward with this Project could expose customers served from the lines to outages as the assets continue to deteriorate. It could also be detrimental to the major industrial customers' operations, as high levels of power system reliability are essential for their business operations.

The need and solution for the supplemental Project was presented and reviewed with stakeholders at the March 19, 2020 and October 15, 2021 PJM Subregional RTEP-West meetings and subsequently assigned PJM identifier s2651. The Project was listed in the Company's 2023 Long-Term Forecast Report on page 49-50, see **Appendix B**.

B(3) Project Location

The applicant shall provide the location of the project in relation to existing or proposed lines and substations shown on an area system map of sufficient scale and size to show existing and proposed transmission facilities in the project area.

The Project crosses Canton Township and Pike Township in Stark County, Ohio. The Project begins at Structure 282 (40.741 longitude, -81.408 latitude) southeast of the South Canton Substation and extends approximately 5.4 miles northeast, terminating at the Sunnyside Substation, east of Warner Road (40.780 latitude, -81.356 longitude).

Figure 1 in **Appendix A** shows the proposed Project relative to existing transmission facilities on a USGS topographic map. **Figure 2** in **Appendix A** identifies the Project components on aerial imagery.

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B(4) Alternatives Considered

The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.

The Company reviewed alternative routes within three focus areas along the existing Philo-Canton 138 kV Transmission Line where constraints were identified during desktop reviews (**Figure 1** and **Figure 2** in **Appendix A**). The northern focus area is located southwest of the intersection of Millerton Street and Moore Avenue. The central focus area is located near Mattie Drive, east of Central Avenue. The southern focus area is located near the intersection of Faircrest Street and SR-800. The goal of the alternatives analysis was to minimize impacts on land use and the human and natural environment while avoiding circuitous routes and minimizing the number of non-standard design requirements. The selection of the proposed route was based on the knowledge of subject matter experts from the Company and the Company's consultant, a comparative analysis of potential impacts, and siting decisions made throughout the siting study.

The Project will be constructed within the existing transmission line ROW except for one route adjustment in the northern focus area and other minor shifts necessary for safe construction and operation. Within the northern focus area, south of Millerton Street, the transmission line will be installed approximately 90 feet east of the existing centerline to avoid an agricultural building within the existing ROW. The other minor shifts (ranging between 21 to 77 feet from current centerline) will not require new ROW acquisition.

Based on the Company's review of constraints and opportunities within the central and southern Project focus areas, no practical alternatives were identified due to the density of residences and other constraints in the focus areas. The rebuild on or near the existing transmission centerline was selected as the proposed route including slight line shifts and/or reduced ROW width where residences or other buildings are located near the existing transmission line. However, these shifts do not impact any new residences, land use, wetlands, streams, or known cultural resources. Any greenfield-based route alternative would add additional length to the Project, and likely more (or new) land use and environmental impacts without any additional benefit. Abandoning the existing ROW for a new greenfield route is neither practical nor necessary for this Project.

After desktop and field examination, the Company concluded that the route presented in this application, shown in **Appendix A**, was the most feasible and appropriate route for meeting the Project needs.

B(5) Public Information Program

The applicant shall describe its public information program to inform affected property owners and tenants of the nature of the project and the proposed timeframe for project construction and restoration activities.

The Company will inform affected property owners and tenants about this Project through several different mediums. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements of

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OAC Section 4906-6-08(A)(1-6). Further, the Company has mailed (or will mail) a letter, via first class mail, to affected landowners, tenants, contiguous owners and any other landowner the Company may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of OAC Section 4906-6-08(B). The Company maintains a website (<http://aeptransmission.com/ohio/>), which provides the public access to an electronic copy of this LON and the public notice for this LON. An electronic copy of the LON will be served to the public library in each political subdivision for this Project. The Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey information to affected owners and tenants throughout the Project.

B(6) Construction Schedule

The applicant shall provide an anticipated construction schedule and proposed in-service date of the project.

Construction of the Project is planned to begin in October 2023, and the anticipated in-service date will be December 2025.

B(7) Area Map

The applicant shall provide a map of at least 1:24,000 scale clearly depicting the facility with clearly marked streets, roads, and highways, and an aerial image.

Figure 1 in Appendix A shows the location of the Project area on USGS 1:24,000-scale topographic quadrangle maps (Bolivar, Canton East, and Canton West quadrangles). **Figure 2 in Appendix A** shows the Project area on ESRI World Imagery (2020/2021) at a 1:3,000-scale.

To visit the Project starting point from Columbus, take Interstate (“I-”) 71 N for approximately 68.3 miles. From I-71 N take exit 176 to merge onto U.S. Highway (“US-”) 30 E toward Wooster for approximately 56.5 miles. Then take the Ohio Route (“OH-”) 43 N exit toward Cherry Avenue/downtown for approximately 0.2 mile. Keep left at the fork to continue toward 419/Cherry Avenue SE. Turn left onto 419/Cherry Avenue SE and continue for approximately 0.2 mile and then take another left onto Sherrick Road SE and continue for another 1.2 miles. Then turn right onto 293/Moore Avenue SE and continue for approximately 0.1 mile and Sunnyside Substation will be on the right.

B(8) Property Agreements

The applicant shall provide a list of properties for which the applicant has obtained easements, options, and/or land use agreements necessary to construct and operate the facility and a list of the additional properties for which such agreements have not been obtained.

The Project will be constructed within the Company’s existing ROW; however, supplemental easements will be necessary along the Project route. **Appendix C** provides a table of property parcel numbers with an indication as to the type of easement necessary, and whether the Company has obtained the easement.

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B(9) Technical Features

The applicant shall describe the following information regarding the technical features of the project:

B(9)(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.

The Project is estimated to include the following:

- Voltage: 138 kV
- Conductors: Single Circuit, 795KCM ACSR 26/7 Strand, DRAKE
- Static Wire: (1) AFL OPGW DNO-12739 S1-36/101/646 0.646 144 Fiber
- Insulators: Polymer
- ROW Width: 100-foot, with the exception of residential areas where the ROW would be reduced
- Structure Type: Two (2) monopole double circuit dead-end structures,
 - (11) monopole single circuit dead-end structure,
 - (6) monopole steel running angle structures, and
 - (10) monopole steel tangent structures

B(9)(b) Electric and Magnetic Fields

For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line.

Three loading conditions were examined: (1) Normal Maximum Loading, (2) Emergency Loading, and (3) Winter Normal Conductor Rating, consistent with the OPSB requirements. Normal Maximum Loading represents the peak flow expected with all system facilities in service; daily/hourly flows fluctuate below this level. Emergency loading is the maximum current flow during unusual (contingency) conditions, which exist only for short periods of time. Winter normal (“WN”) conductor rating represents the maximum current flow that a line, including its terminal equipment, can carry during winter conditions. It is not anticipated that this line would operate at its WN rating in the foreseeable future.

Electromagnetic frequency (“EMF”) levels were computed 1 meter above ground under the line and at the ROW edges (50/50 feet, left/right, of centerline).

Results calculated below use EPRI's EMF Workstation 2015 software.

South Canton-Sunnyside 138 kV Transmission Line Structure 1 / Structure 2					
Condition	Load (A)	Phasing Arrangements	Ground Clearance (feet)	Electric Field (kV/m)*	Magnetic Field (mG)*
(1) Normal Max. Loading[^]	356.04/356.04	A-B-C / A-B-C	42.6/42.6	(0.46/0.78/0.35) / (0.09/0.7/0.09)	(13.93/30.6/13.71) / (8.24/17.35/8.24)
(2) Emergency Line Loading^{^^}	829.35/829.35	A-B-C / A-B-C	30.0/30.0	(0.53/1.44/0.43) / (0.03/1.23/0.03)	(41.69/137.46/41.42) / (24.35/74.77/24.35)
(3) Winter Conductor Rating^{^^^}	1361.31/1361.31	A-B-C / A-B-C	42.6/42.6	(0.46/0.78/0.35) / (0.09/0.7/0.09)	(53.25/117.02/52.44) / (31.51/66.33/31.51)

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For power-frequency EMF, IEEE Standard C95.6TM-2002 recommends the following limits:

	General Public	Controlled Environment
Electric Field Limit (kV/m)	5.0	20.0
Magnetic Field Limit (mG)	9040	27,100

The above EMF levels are well within the limits specified in IEEE Standard C95.6TM-2002. Those limits have been established to "prevent harmful effects in human beings exposed to electromagnetic fields in the frequency range of 0-3 kHz."

B(9)(c) Project Costs

The estimated capital cost of the project.

The capital cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately \$14,200,000 based on a Class 4 estimate. Pursuant to the PJM Open Access Transmission Tariff ("OATT"), the costs for this Project will be recovered in the Company's Federal Energy Regulatory Commission ("FERC") formula rate (Attachment H-20 to the PJM OATT) and allocated to the AEP Zone.

B(10) Social and Ecological Impacts

The applicant shall describe the social and ecological impacts of the project.

B(10)(a) Land Use Characteristics

Provide a brief, general description of land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.

The Project is located in Canton and Pike townships in Stark County, Ohio. Land use observed within the Project area includes undeveloped land, agricultural land, and low to medium-density residential developments. The Project has no places of worship or airports identified within 1,000 feet of the Project.

B(10)(b) Agricultural Land Information

Provide the acreage and a general description of all agricultural land, and separately all agricultural district land, existing at least sixty days prior to submission of the application within the potential disturbance area of the project.

Approximately 25.4 acres of agricultural land is located within the 100-foot ROW corridor where construction activities are planned. This general agricultural land includes a mix of cropland, fallow fields, and pastures.

The Stark County Auditor's Office provided a list of parcels registered as Agricultural District Land in March 2023. Approximately 4.4 acres of Agricultural District Land is located within the 100-foot ROW

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corridor where construction activities are planned. Impacts to Agricultural District Land will be limited to the footprint of the monopole structures.

B(10)(c) Archaeological and Cultural Resources

Provide a description of the applicant's investigation concerning the presence or absence of significant archeological or cultural resources that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

A Phase I Archaeological Investigation was conducted for the Project and the report, *Phase I Archaeological Investigations for the 8.8 km (5.5 mi) South Canton-Sunnyside 138kV Transmission Line Rebuild Project in Canton and Pike Townships, Stark County, Ohio*, was provided to the Ohio State Historic Preservation Office (“SHPO”) for consultation. SHPO correspondence was provided in June 2022, see **Appendix D**. As there were no previously identified sites within the Project area and no new archaeological sites were identified, the SHPO concurred with the report’s conclusions that no further work is necessary.

The Company’s consultant also conducted an above-ground survey of historic properties and provided a report, *History/Architecture Investigations for the 8.8 km (5.5 mi) South Canton-Sunnyside 138kV Transmission Line Rebuild Project in Canton and Pike Townships, Stark County, Ohio*, to the SHPO for review. SHPO responded in June 2022 and concurred that the project as proposed will have no adverse effect on the identified historic properties. Copies of the SHPO’s correspondence letters are provided in **Appendix D**.

B(10)(d) Local, State, and Federal Agency Correspondence

Provide a list of the local, state, and federal governmental agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC000006. The Company will implement and maintain best management practices (“BMPs”) as outlined in the project-specific Storm Water Pollution Prevention Plan (“SWPPP”) to minimize erosion and control sediment to protect surface water quality during storm events.

The Stark County Soil and Water Conservation District requires a Project-specific SWPPP approval and an Earth Disturbance Permit. The Company will obtain the required SWPPP approval and Earth Disturbance Permit prior to commencement of the Project.

The Company’s consultant completed a wetland delineation and stream identification field review of the existing and planned ROW for the Project (**Appendix E**). A total of 15 wetlands, 8 streams, and one open waterbody were delineated within the environmental survey corridor. The identified wetlands and streams are located within or adjacent to the planned transmission line ROW and are proposed to be aerially spanned by the Project or avoided. Therefore, coordination with the U.S. Army Corps of Engineers is not anticipated for this Project. The Ecological Survey Report is provided in **Appendix E**.

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The Project crosses the Federal Emergency Management Agency (“FEMA”) 100-year floodplain (ID 39151C_1572) of one waterbody, Nimishillen Creek. In addition, the Project crosses one mapped FEMA floodway along Nimishillen Creek. These resources are shown on **Figure 2** in **Appendix E**. The Company will obtain a floodplain permit from Stark County for the installation of any structures within these areas.

There are no other known local, state, or federal requirements that must be met prior to commencement of the Project.

B(10)(e) Threatened, Endangered, and Rare Species

Provide a description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

Coordination with the Ohio Department of Natural Resources-Division of Wildlife (“ODNR-DOW”) was initiated on August 18, 2021, to obtain an Environmental Review and Ohio Natural Heritage Database records review within a one-mile buffer area around the Project. ODNR-DOW’s response was received on September 13, 2021, see **Appendix D**. In addition, a technical assistance request was submitted to the U.S. Fish and Wildlife Service (“USFWS”) on August 18, 2021, with a response received on August 30, 2021. Copies of the agencies’ correspondence letters are provided in **Appendix D**.

Based on consultation from the USFWS, the Project area lies within the vicinity of Northern long-eared bat (threatened) and Indiana bat (endangered) hibernaculum buffers and roost tree buffers. The USFWS recommended avoiding tree removal, wherever possible. If trees ≥ 3 inches diameter breast height (“dbh”) cannot be avoided, USFWS-- recommended removal of any trees ≥ 3 inches dbh only take place between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bat species. If implementation of seasonal tree cutting is not possible, USFWS indicated that a summer presence/absence survey may be conducted for listed species. Based upon survey results, tree clearing may occur during any time of the year. USFWS also indicated that summer mist net surveys can only take place between June 1 and August 15. The Company intends to clear trees between October 1st and March 31st. If summer tree clearing is required, further coordination with USFWS will be conducted to avoid impacts to this species.

ODNR-DOW stated that the entire state of Ohio is within the range of the Indiana bat (*Myotis Sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. If trees within the Project area must be cut, the ODNR-DOW recommends cutting take place only from October 1 to March 31, conserving roost trees with loose, shaggy bark and/or crevices holes, or cavities and trees with dbh ≥ 20 inches where possible. The Company intends to clear trees between October 1st and March 31st to avoid adverse effects. If summer tree clearing is required, further coordination with ODNR-DOW will be conducted to avoid impacts to this species.

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ODNR-DOW recommended a desktop habitat assessment to determine the presence of bat hibernacula within 0.25 mile of the Project area. The Company's consultant completed a desktop habitat assessment (in accordance with the 2020 Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines). The desktop assessment identified abandoned underground mines within 0.25 mile of the Project area. However, no potential bat hibernacula were observed within the Project area during field surveys. Due to the desktop finding of underground mines within 0.25 mile of the Project area, the Company's consultant will pursue further coordination with ODNR-DOW for Project recommendations.

The ODNR-DOW stated that the Project is within the range of the long-solid (*Fusconaia maculata maculata*), a state endangered mussel. ODNR-DOW stated that due to the location, and no proposed in-water work in a perennial stream of sufficient size, the Project is not likely to impact this species. The Company anticipates no impact to this species due to no proposed in-water work.

The ODNR-DOW stated that the Project is within that range of the Iowa darter (*Etheostoma exile*), a state endangered fish. The ODNR-DOW recommended no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, ODNR-DOW stated that the Project is not likely to impact this or other aquatic species. The Company anticipates no impact to this species due to no proposed in-water work.

The ODNR-DOW stated that the Project also lies within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species is known to inhabit fens, bogs, and marshes, wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. Due to the location, the type of habitat within the Project area and the type of work proposed, the Project is not likely to impact this species. The Company anticipates no impact to this species due to the type of work proposed.

Lastly, the ODNR-DOW stated that the Project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are rare, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies on the ground or on top of mounds. Harriers hunt over grasslands. If this type of habitat will be impacted, ODNR recommends construction be avoided in this habitat during the species' nesting period of April 15 to July 31. However, no suitable nesting habitat for the Northern Harrier was observed within the Project area during field surveys (unfragmented grasslands or wetlands). Therefore, the Project is not likely to impact this species and nesting season avoidance dates are not applicable.

The ODNR-DOW correspondence letter included species data from the Natural Heritage Database that was within a 1-mile radius of the Project area. The Natural Heritage Database list included the following species: Shore-growing peat moss and Brush-tipped emerald. The ODNR-DOW recommended that impacts to streams, wetlands, and other water resources be avoided and minimized, and BMPs be implemented to minimize erosion and sedimentation. However, no suitable habitat was observed for these species during field surveys. Therefore, the Project is not likely to impact these species.

B(10)(f) Areas of Ecological Concern

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Provide a description of the applicant’s investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

A copy of the correspondence letters received from the USFWS and ODNR-DOW are provided in **Appendix D**. USFWS did not identify federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project. The ODNR’s response letter indicated no known unique ecological sites, geologic features, scenic rivers, state wildlife areas, state natural preserves, state or national parks, national forests, or national wildlife refuges within the Project area. The Natural Heritage Database identified the Bolivar Reservoir, managed by the Muskingum Watershed Conservancy District within a one-mile radius of the Project Area. No impacts to the reservoir are expected due to the distance from the reservoir.

The Company’s consultant prepared an Ecological Survey Report which outlines the presence or absence of areas of ecological concern, including but not limited to floodplains, wetlands, waterbodies, and wildlife habitats. The Ecological Survey Report and Addendum are provided in **Appendix E**. Wetland delineation, stream identification, and general habitat field surveys were completed within the Project area in March and December 2022 and February 2023. A total of 15 wetlands, eight streams, and one open waterbody were delineated within the environmental survey corridor. The Company will implement erosion and sediment control BMPs to avoid or minimize impacts to natural resources where possible. Based on the nature of the proposed project activities and habitat characteristics of the surrounding vicinity, construction impacts to wetlands, streams and waterbodies are not anticipated.

Based on the FEMA Flood Insurance Rate Maps (“FIRM”), the Project crosses FEMA-mapped 100-year floodplain of one waterbody, Nimishillen Creek. In addition, the Project crosses one mapped FEMA Floodway, Nimishillen Creek (FIRM Panel ID numbers 39151C0238E, 39151C0360F, 39151C0219E). The Company proposes installation of one structure within the floodplain of Nimishillen Creek. The Company will obtain appropriate permits for the installation of the structure in this area. These resources are shown on **Figure 2** in **Appendix E**.

B(10)(g) Unusual Conditions

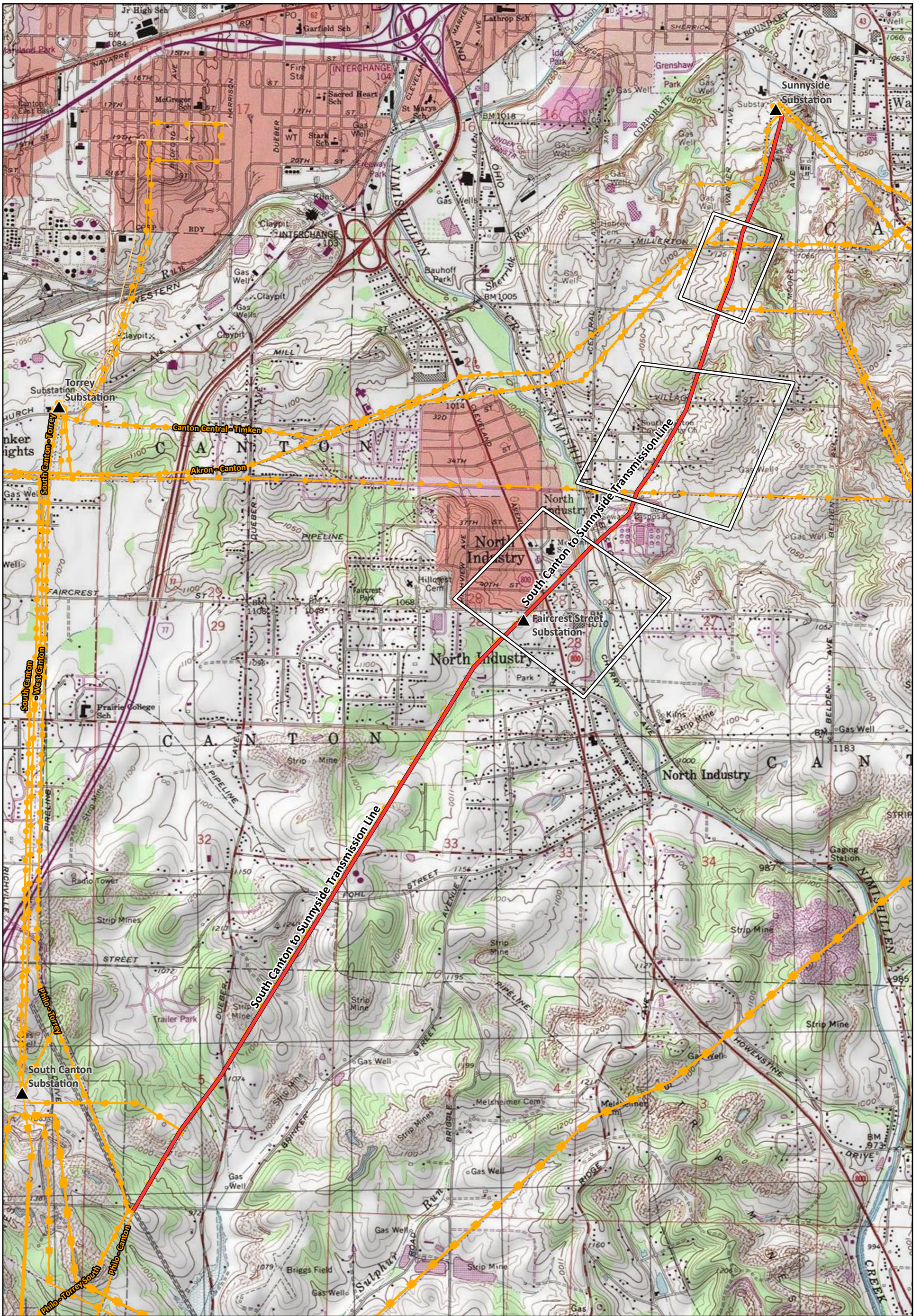
Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

To the best of the Company’s knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

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Appendix A

Project Maps



Legend

- Proposed Route
- Focus Area
- ▲ Existing Substation
- Existing Transmission Line Unknown Voltage
- Existing 138 kV Transmission Line
- Existing 345 kV Transmission Line
- Existing 765 kV Transmission Line

Base Map Source:
ESRI USGS Topographic
(May 2020)
Quads: Bolivar, Canton East,
Canton West

Coordinate System:
State Plane Ohio South
FIPS 3402 (US Feet)
Datum: NAD 1983
Scale: 1:24,000

May 09, 2023

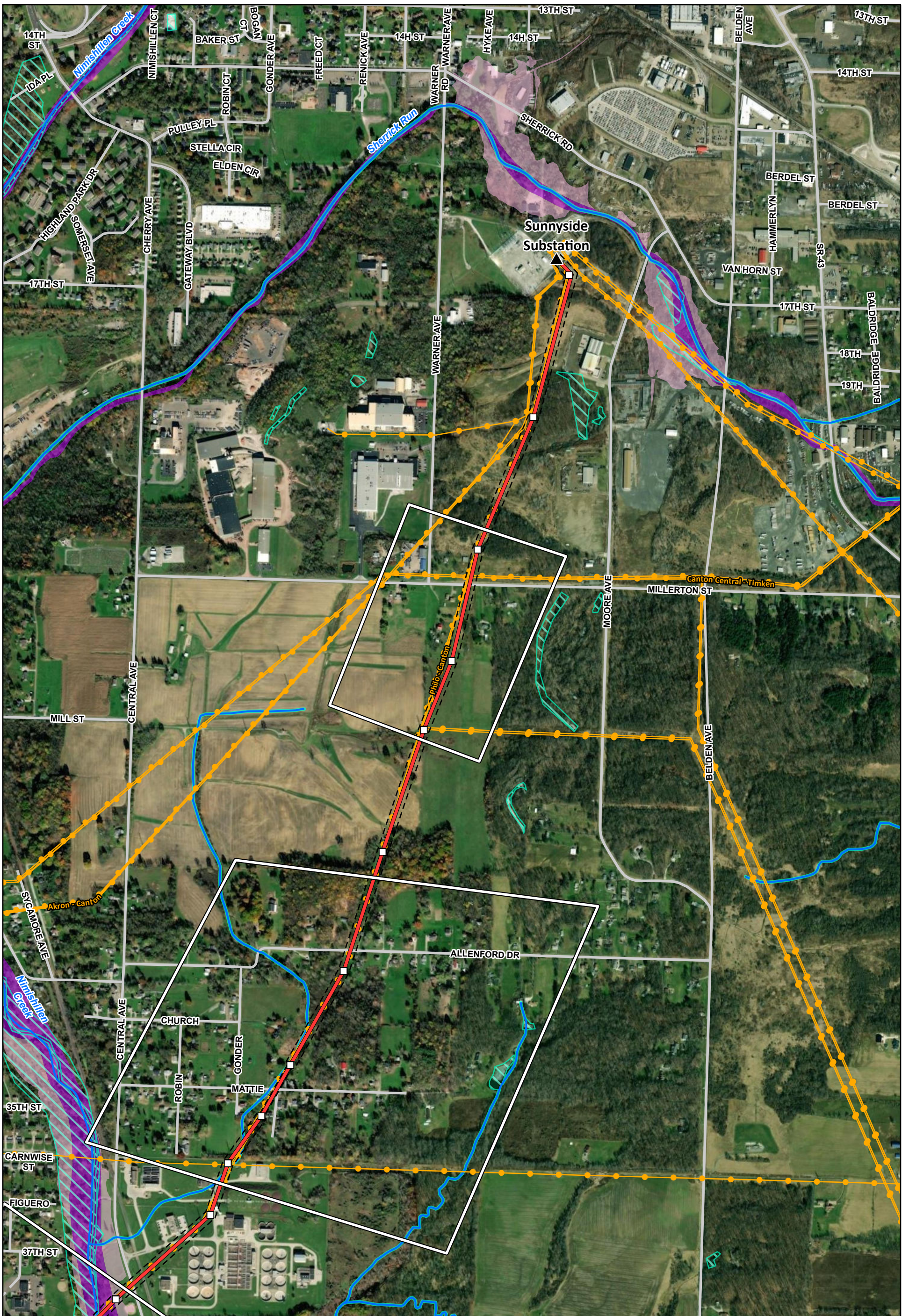


Figure 1
TOPOGRAPHIC OVERVIEW

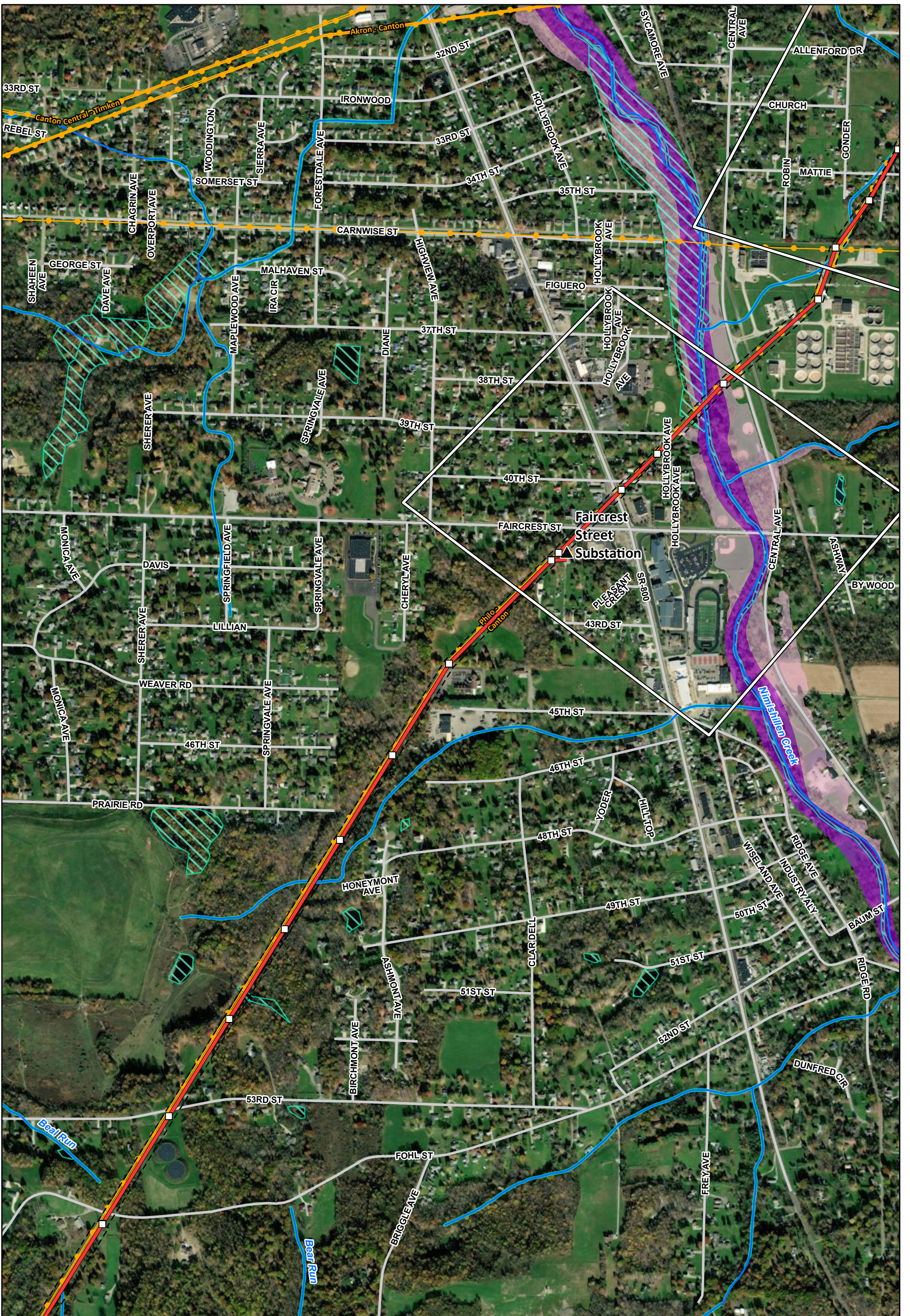
South Canton - Sunnyside
138 kV Transmission Line Project
Stark County, OH

AEP OHIO TRANSMISSION COMPANY
An AEP Company
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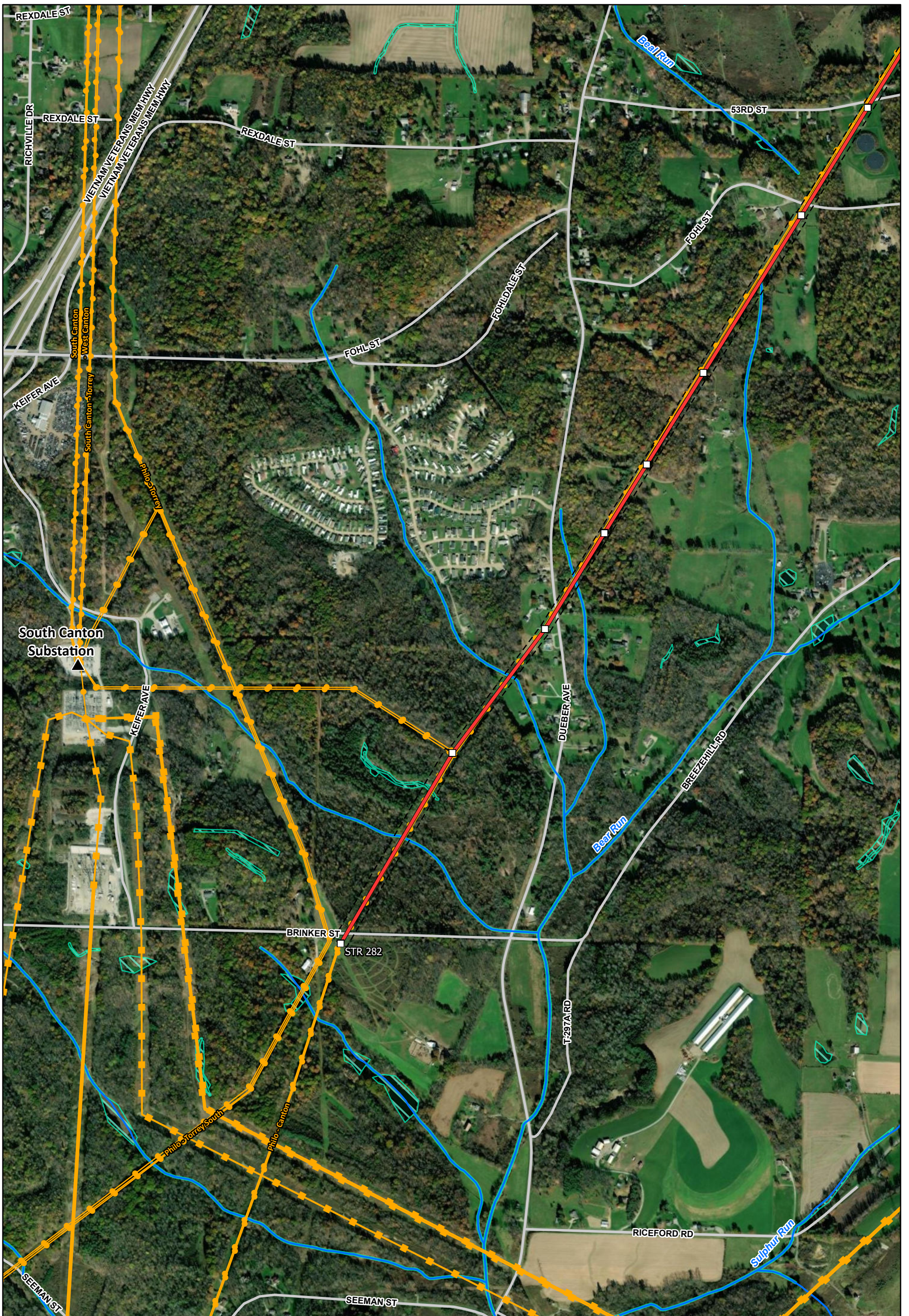
0 0.25 0.5
Miles



<p>Legend</p> <ul style="list-style-type: none"> □ Proposed Structure Location — Proposed Transmission Line ⌈ Right of Way ▭ Focus Area ▲ Existing Substation 	<ul style="list-style-type: none"> ● Existing 138 kV Transmission Line — Road — NHD Stream ▨ NWI Wetland ▨ 100-year floodplain ▨ Floodway 	<p>Base Map Source: ESRI World Imagery (2020/2021)</p> <p>Coordinate System: State Plane Ohio South FIPS 3402 (US Feet) Datum: NAD 1983 Scale: 1:10,000</p> <p>May 10, 2023</p>	<p>Stark County</p>	<p>Figure 2 AERIAL MAP</p> <p>AEP OHIO TRANSMISSION COMPANY An AEP Company BOUNDLESS ENERGY</p> <p>South Canton - Sunnyside 138 kV Transmission Line Project Stark County, OH</p> <p>0 500 1,000 Feet</p>
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<p>Legend</p> <ul style="list-style-type: none"> □ Proposed Structure Location — Proposed Transmission Line ▭ Right of Way ▭ Focus Area ▲ Existing Substation — Existing 138 kV Transmission Line — Road — NHD Stream ▨ NWI Wetland ▨ 100-year floodplain ▨ Floodway 	<p>Base Map Source: ESRI World Imagery (2020/2021)</p> <p>Coordinate System: State Plane Ohio South FIPS 3402 (US Feet) Datum: NAD 1983 Scale: 1:10,000</p> <p>May 10, 2023</p>	<p>Stark County</p>	<p>Figure 2 AERIAL MAP</p> <p>AEP OHIO TRANSMISSION COMPANY An AEP Company BOUNDLESS ENERGY</p> <p>South Canton - Sunnyside 138 kV Transmission Line Project Stark County, OH</p> <p>0 500 1,000 Feet</p>
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Legend <ul style="list-style-type: none"> □ Proposed Structure Location — Proposed Transmission Line ▭ Right of Way ▭ Focus Area ▲ Existing Substation — Existing 138 kV Transmission Line — Existing 345 kV Transmission Line — Existing 765 kV Transmission Line — Road — NHD Stream ▭ NWI Wetland 		<p>Base Map Source: ESRI World Imagery (2020/2021)</p> <p>Coordinate System: State Plane Ohio South FIPS 3402 (US Feet) Datum: NAD 1983 Scale: 1:10,000</p> <p>May 10, 2023</p>	<p>Stark County</p>	<p>Figure 2 AERIAL MAP</p> <p>AEP OHIO TRANSMISSION COMPANY An AEP Company BOUNDLESS ENERGY</p> <p>South Canton - Sunnyside 138 kV Transmission Line Project Stark County, OH</p> <p>0 500 1,000 Feet</p>
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LETTER OF NOTIFICATION FOR THE SOUTH CANTON – SUNNYSIDE 138 KV TRANSMISSION LINE PROJECT

Appendix B

LTFR Reference and PJM Interconnection Submittal



An AEP Company

BOUNDLESS ENERGY™

13.	MISCELLANEOUS:	
1.	LINE NAME AND NUMBER:	Carrothers - Founders - Greenlawn s2637 TP2020011
2.	POINTS OF ORIGIN AND TERMINATION	Carrothers - Founders - Greenlawn INTERMEDIATE STATIONS - North Bloomville Switch, Bloomville, St Stephen Switch
3.	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	0.83 mi / 60 ft / 2 circuit (of new construction)
4.	VOLTAGE: DESIGN / OPERATE	69 kV /69 kV
5.	APPLICATION FOR CERTIFICATE:	N/A
6.	CONSTRUCTION:	2023 - 2024
7.	CAPITAL INVESTMENT:	\$2.4 M
8.	PLANNED SUBSTATION:	Founders
9.	SUPPORTING STRUCTURES:	Steel
10.	PARTICIPATION WITH OTHER UTILITIES	N/A
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	This is a rebuild / reconfiguration of the existing line to connect into founders station while also removing several switches.
12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Risk of operational/reliability issues
13.	MISCELLANEOUS:	
1.	LINE NAME AND NUMBER:	South Canton - Southeast Canton 138kV S2651 TP2020224
2.	POINTS OF ORIGIN AND TERMINATION	South Canton - Southeast Canton; INTERMEDIATE STATIONS - Faircrest Street
3.	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	7.2 mi / 100 ft / 1 circuit (Only 4.2 mi is being rebuilt)
4.	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	5/19/2023
6.	CONSTRUCTION:	2024 - 2025
7.	CAPITAL INVESTMENT:	\$10.8M
8.	PLANNED SUBSTATION:	N/A
9.	SUPPORTING STRUCTURES:	Steel
10.	PARTICIPATION WITH OTHER UTILITIES	N/A
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Rebuild of existing 138 kV line

12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Increased risk of equipment failure, reliability, and operational issues
13.	MISCELLANEOUS:	
1.	LINE NAME AND NUMBER:	Southeast Canton - Sunnyside 138kV S2651 TP2020224
2.	POINTS OF ORIGIN AND TERMINATION	Southeast Canton - Sunnyside INTERMEDIATE STATIONS N/A
3.	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	3.19 mi / 100 ft / 1 circuit (Only 0.9 mi is being rebuilt)
4.	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	5/19/2023
6.	CONSTRUCTION:	2024 - 2025
7.	CAPITAL INVESTMENT:	\$2.32M
8.	PLANNED SUBSTATION:	N/A
9.	SUPPORTING STRUCTURES:	Steel
10.	PARTICIPATION WITH OTHER UTILITIES	N/A
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Rebuild of existing 138 kV line
12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Increased risk of equipment failure, reliability, and operational issues
13.	MISCELLANEOUS:	
1.	LINE NAME AND NUMBER:	North Intertie - South Canton 138kV S2651 TP2020224
2.	POINTS OF ORIGIN AND TERMINATION	North intertie - South Canton INTERMEDIATE STATIONS Bolivar
3.	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	15.24 mi / 100 ft / 1 circuit (Only 0.4 mi is being rebuilt)
4.	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	10/2/2023
6.	CONSTRUCTION:	2024 - 2025
7.	CAPITAL INVESTMENT:	\$1.03M
8.	PLANNED SUBSTATION:	N/A
9.	SUPPORTING STRUCTURES:	Steel
10.	PARTICIPATION WITH OTHER UTILITIES	N/A
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Rebuild of existing 138 kV line

Need Number: AEP-2020-OH052

Process Stage: Solution Meeting 10/15/2021

Previously Presented: Need Meeting 3/19/2020

Supplemental Project Driver:

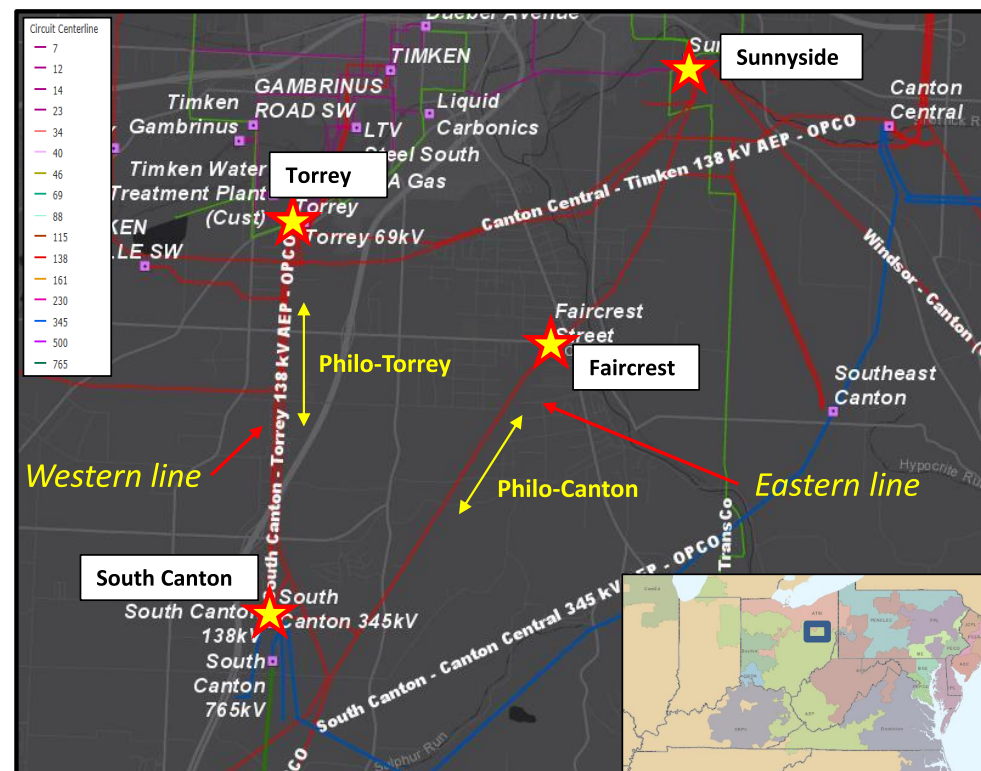
Equipment Material Condition, Performance and Risk; Operational Flexibility & Efficiency

Specific Assumption Reference:

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 8), AEP Presentation on Pre-1930s Lines

Problem Statement:

- The South Canton - Sunnyside eastern 138kV transmission line is 5.5 miles long, originally constructed in 1923. The vast majority of the structures are still original, as well as the six-wired 336 ACSR conductor, insulators, and hardware. This line is made up of several circuits connected between South Canton and Sunnyside stations.
- Insulator assemblies are showing corrosion and deterioration, which could lead to additional failures and safety concerns.
- This line has experienced 3 momentary outages and 1 sustained outages over the past 10 years (2008/2018).



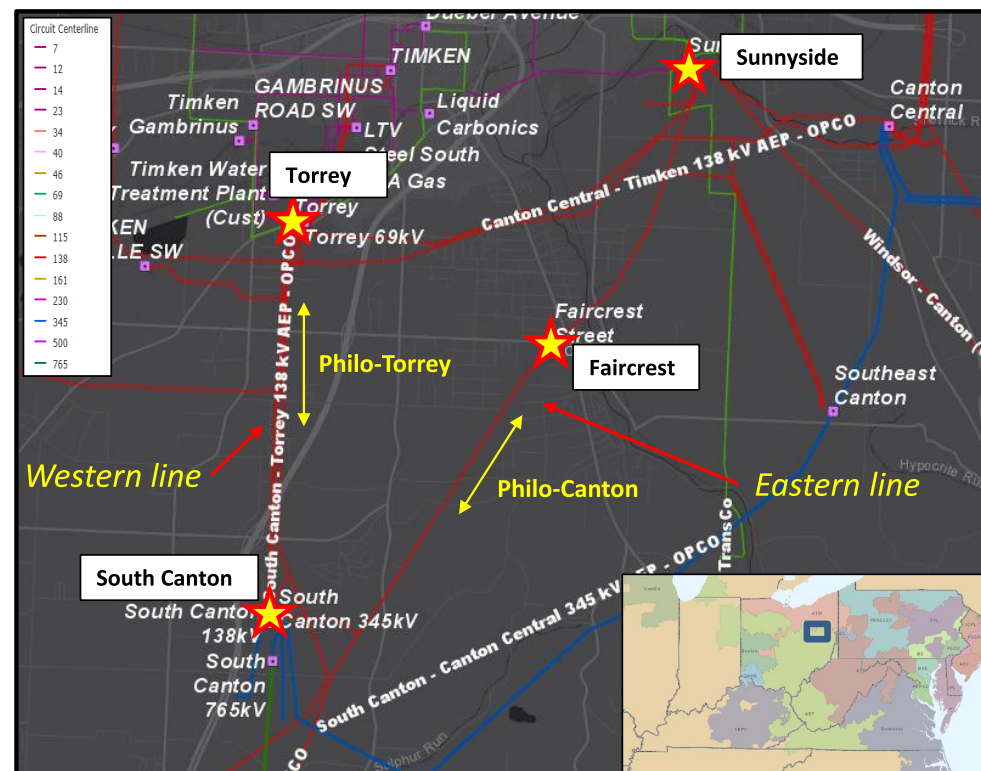
Need Number: AEP-2020-OH052

Process Stage: Solution Meeting 10/15/2021

Previously Presented: Need Meeting 3/19/2020

Problem Statement, continued:

- The South Canton-Torrey western 138kV transmission line is 3.5 miles long and consists of portions of the following circuits: Philo-South Canton (0.9 miles of the total circuit length of 75 miles)); South Canton-Timken Richville (2.0 of 3.5 miles), and Timken Richville-Timken (0.6 of 3.4 miles). The line was originally built in 1942 with steel lattice towers. The conductor is 6-wired single-circuit, with one side installed in 1942 (397 ACSR) and the other side installed in 1954 (477 ACSR). The line does not meet current grounding and shielding requirements, due to the condition of the obsolete shield wire size (159 ACSR), and the line shielding angle being inadequate. This T-line exhibits similar conditions as the examples listed in AEP's 1930's steel lattice tower line presentation.
- The 2- 138kV line switches at Faircrest station (part of S.Canton-SE Canton circuit) are barely functional, difficult to open/close, and date to 1971.
- The protection equipment on the Southeast Canton-Sunnyside 138kV circuit consists of legacy electromechanical relays and pilot wire communications channel. Electromechanical relays lack vendor support, don't have SCADA, and lack fault data collection capabilities. Aging pilot wire is increasingly prone to failure and increased maintenance, leading to risk of having to rely on backup protection methods.





AEP Transmission Zone M-3 Process Canton, Ohio

Need Number: AEP-2020-OH052

Process Stage: Solution Meeting 10/15/2021

Proposed Solution:

Rebuild the Philo-Torrey 138kV transmission line between South Canton and Torrey (3.5 miles). The circuits affected are South Canton-Timken Richville and Timken Richville-Timken 138kV. **Estimated Cost: \$7.64M**

Rebuild the Philo-Canton 138kV transmission line between South Canton and Sunnyside (5.5 miles). The circuits affected are South Canton-Southeast Canton and Southeast Canton-Sunnyside 138kV. **Estimated Cost: \$14.22M**

Replace the 138kV switches at Faircrest Street station to accommodate the new line structures. **Estimated Cost: \$0.12 M**

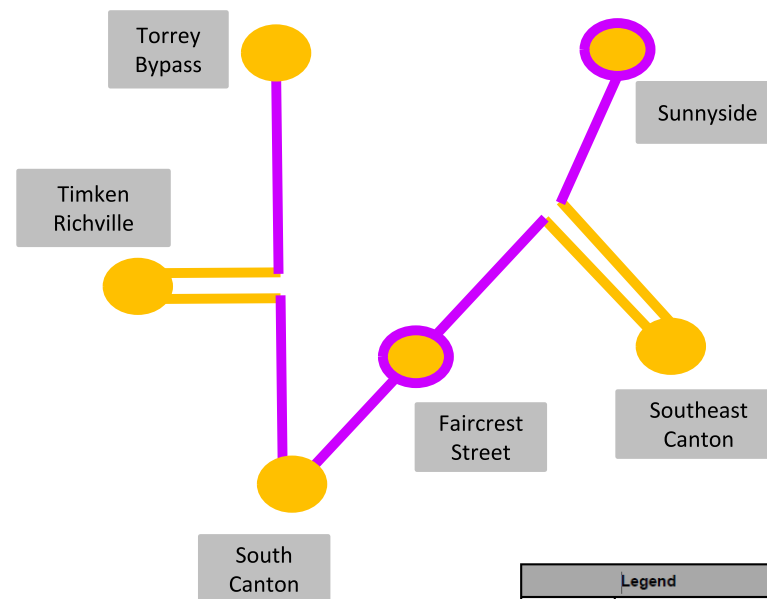
At Sunnyside, upgrade the relays on the 138kV circuit to Southeast Canton. The control building needs expanded to accommodate the new relay panels. **Estimated Cost: \$0.73 M**

Total Estimated Transmission Cost: \$22.71 Million

Alternatives Considered: No viable alternatives. The two transmission lines serve a number of customer stations in the Canton area, and are physically distant, so neither line can be retired.

Projected In-Service: 11/01/2025

Project Status: Scoping



Legend	
500 kV	
345 kV	
138 kV	
69 kV	
34.5 kV	
23 kV	
New	

LETTER OF NOTIFICATION FOR THE SOUTH CANTON – SUNNYSIDE 138 KV TRANSMISSION LINE PROJECT

Appendix C Easement/Options List

**South Canton - Sunnyside 138 kV Transmission Line Project
Easement/Options List**

Property Parcel Number	Agreement Type	Easement Agreement/Option Obtained (Yes/No)
4909700	Easement Supplemental	No
4900718	Easement Supplemental	No
4900344	Easement Supplemental	No
4900431	Easement Supplemental	No
4909287	Easement Supplemental	No
4909217	Easement Supplemental	No
4909343	Easement Supplemental	No
4900869	Easement Supplemental	No
4900263	Easement Supplemental	No
4900112	Easement Supplemental	No
4909331	Easement Supplemental	No
4909392	Easement Supplemental	No
4909329	Easement Supplemental	No
4900457	Easement Supplemental	No
1308736	Easement Supplemental	No
1307776	Easement Supplemental	No
1308751	Easement Supplemental	No
1300968	Easement Supplemental	No
1300984	Easement Supplemental	No
1312170	Easement Supplemental	No
1310238	Easement Supplemental	No
1380090	Easement Supplemental	No
1312937	Easement Supplemental	No
1312341	Easement Supplemental	No
1312342	Easement Supplemental	No
1312935	Easement Supplemental	No
1313562	Easement Supplemental	No
1313933	Easement Supplemental	No
10010462	Easement Supplemental	No
10010374	Easement Supplemental	No
1380029	Easement Supplemental	No
1380026	Easement Supplemental	No
1380050	Easement Supplemental	No
1313159	Easement Supplemental	No
1308196	Easement Supplemental	No
1300265	Easement Supplemental	No
1309076	Easement Supplemental	No
1300304	Easement Supplemental	No
1312124	Easement Not Required	N/A
1300674	Easement Supplemental	No
1380066	Easement Supplemental	No
10003058	Easement Supplemental	No
10003006	Easement Supplemental	No
10002983	Easement Supplemental	No
10007056	Easement Supplemental	No

*Parcel is owned by the Company or the State of Ohio, Department of Transportation, and therefore does not require an easement.

**South Canton - Sunnyside 138 kV Transmission Line Project
Easement/Options List**

10002694	Easement Supplemental	No
10002753	Easement Supplemental	No
10002629	Easement Supplemental	No
1304780	Easement Supplemental	No
1305248	Easement Supplemental	No
1304866	Easement Supplemental	No
1305249	Easement Supplemental	No
1303271	Easement Supplemental	No
1306620	Easement Supplemental	No
10001624	Easement Supplemental	No
1380266	Easement Supplemental	No
1380005	Easement Supplemental	No
1380083	Easement Supplemental	No
10007278	Easement Supplemental	No
1380086	Easement Supplemental	No
1309092	Easement Supplemental	No
1315098	Easement Supplemental	No
1315099	Easement Supplemental	No
1312630	Easement Supplemental	No
1315097	Easement Supplemental	No
1307534	Easement Supplemental	No
1313470	Easement Supplemental	No
1307533	Easement Supplemental	No
1301132	Easement Supplemental	No
10008881	Easement Supplemental	No
1301361	Easement Supplemental	No
1301362	Easement Supplemental	No
10008880	Easement Supplemental	No
1391251	Easement Supplemental	No
10008882	Easement Supplemental	No
1301138	Easement Supplemental	No
1301221	Easement Supplemental	No
1309188	Easement Supplemental	No
1309794	Easement Supplemental	No
1308826	Easement Supplemental	No
1302326	Easement Supplemental	No
1301197	Easement Supplemental	No
1308732	Easement Supplemental	No
1313912	Easement Supplemental	No
1309780	Easement Supplemental	No
1307765	Easement Supplemental	No
1314938	Easement Supplemental	No
1312622	Easement Not Required	N/A
1309574	Easement Supplemental	No
1313679	Easement Supplemental	No
1313544	Easement Supplemental	No
1312134	Easement Not Required	N/A
10011553	Easement Supplemental	No
1312141	Easement Not Required	N/A

*Parcel is owned by the Company or the State of Ohio, Department of Transportation, and therefore does not require an easement.

**South Canton - Sunnyside 138 kV Transmission Line Project
Easement/Options List**

4900840	Easement Supplemental	No
4909529	Easement Supplemental	No
4909409	Easement Not Required	N/A
4909419	Easement Not Required	N/A
4909407	Easement Not Required	N/A
1380170	Easement Not Required	N/A
1312110	Easement Not Required	N/A
1380174	Easement Not Required	N/A
8300013	Easement Not Required	N/A
8300023	Easement Not Required	N/A
1314964	Easement Not Required	N/A
8300015	Easement Not Required	N/A

*Parcel is owned by the Company or the State of Ohio, Department of Transportation, and therefore does not require an easement.

LETTER OF NOTIFICATION FOR THE SOUTH CANTON – SUNNYSIDE 138 KV TRANSMISSION LINE PROJECT

Appendix D

Agency Correspondence



In reply, refer to
2022-STA-54835

June 6, 2022

Mr. Ryan J. Weller
Weller & Associates, Inc.
1395 West Fifth Avenue
Columbus, Ohio 43212

RE: South Canton-Sunnyside 138kV Transmission Line Rebuild Project, Canton and Pike Townships, Stark County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received May 9, 2022 regarding the proposed South Canton-Sunnyside 138kV Transmission Line Rebuild Project, Canton and Pike Townships, Stark County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Archaeological Investigations for the 8.8 km (5.5 mi) South Canton-Sunnyside 138kV Transmission Line Rebuild Project in Canton and Pike Townships, Stark County, Ohio* by Ryan J. Weller (Weller & Associates, Inc. 2022).

A literature review, visual inspection, surface collection, shovel probe and shovel test unit excavation was completed as part of the investigations. No previously identified archaeological sites are located within the project area and no new archaeological sites were identified during survey. Our office agrees no additional archeological investigation is needed.

The following comments pertain to the *History/Architecture Investigations for the 8.8 km (5.5 mi) South Canton-Sunnyside 138kV Transmission Line Rebuild Project in Canton and Pike Townships, Stark County, Ohio* by Scott McIntosh (Weller & Associates, Inc. 2022).

A literature review and field survey were completed as part of the investigations. A total of 130 extant properties 50 years of age or older were identified within the Area of Potential Effects. One Ohio Historic Inventory (OHI) property has previously been determined eligible for listing in the National Register of Historic Places (STA0382018). While the project area will be visible from the National Register-eligible resource, the nature of the project is a rebuild of an existing transmission line corridor.

Based on the information provided, we agree that the project as proposed will have no adverse effect on historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional historic properties are discovered during implementation of this project. In such a situation, this office should be contacted. If you have any questions, please contact me at (614) 298-2022, or by e-mail at khorricks@ohiohistory.org, or Joy Williams at jwilliams@ohiohistory.org. Thank you for your cooperation.

Sincerely,

A handwritten signature in blue ink, appearing to read "Krista Horrocks".

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1093296-1093297



In reply, refer to
2022-STA-54835

January 20, 2023

Mr. Ryan J. Weller
Weller & Associates, Inc.
1395 West Fifth Avenue
Columbus, Ohio 43212

RE: South Canton-Sunnyside 138kV Transmission Line Rebuild Project, Canton and Pike Townships, Stark County, Ohio - Addendum

Dear Mr. Weller:

This letter is in response to the correspondence received January 11, 2023 regarding the proposed South Canton-Sunnyside 138kV Transmission Line Rebuild Project, Canton and Pike Townships, Stark County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the letter report titled *Addendum Archaeological Investigations for the South Canton-Sunnyside 138kV Transmission Line Rebuild Project in Canton and Pike Townships, Stark County, Ohio* by Ryan J. Weller (Weller & Associates, Inc. 2023).

A literature review, visual inspection, shovel probe and shovel test unit excavation was completed as part of the investigations. No previously identified archaeological sites are located within the addendum project area and no new archaeological sites were identified during survey. Our office agrees no additional archeological investigation is needed. No additional architectural resources or buildings are involved with the project.

Based on the information provided, we continue to agree that the project as proposed will have no adverse effect on historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional historic properties are discovered during implementation of this project. In such a situation, this office should be contacted. If you have any questions, please contact me at (614) 298-2022, or by e-mail at khorricks@ohiohistory.org. Thank you for your cooperation.

Sincerely,

A handwritten signature in blue ink, appearing to read "Krista Horrocks".

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1096379



In reply, refer to
2022-STA-54835

February 22, 2023

Mr. Ryan J. Weller
Weller & Associates, Inc.
1395 West Fifth Avenue
Columbus, Ohio 43212

RE: South Canton-Sunnyside 138kV Transmission Line Rebuild Project, Canton and Pike Townships, Stark County, Ohio – Addendum 2

Dear Mr. Weller:

This letter is in response to the correspondence received February 16, 2023 regarding the proposed South Canton-Sunnyside 138kV Transmission Line Rebuild Project, Canton and Pike Townships, Stark County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the letter report titled *Addendum 2 Archaeological Investigations for the South Canton-Sunnyside 138kV Transmission Line Rebuild Project in Canton and Pike Townships, Stark County, Ohio* by Ryan J. Weller (Weller & Associates, Inc. 2023).

A literature review and visual inspection were completed as part of the investigations. No previously identified archaeological sites are located within the addendum project area and no new archaeological sites were identified during survey. Our office agrees no additional archeological investigation is needed. No additional architectural resources or buildings are involved with the project.

Based on the information provided, we continue to agree that the project as proposed will have no adverse effect on historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional historic properties are discovered during implementation of this project. In such a situation, this office should be contacted. If you have any questions, please contact me at (614) 298-2022, or by e-mail at khorricks@ohiohistory.org. Thank you for your cooperation.

Sincerely,

A handwritten signature in blue ink, appearing to read "Krista Horrocks".

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1096985



Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate

John Kessler, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6621
Fax: (614) 267-4764

September 13, 2021

Daniel Godec
Stantec Consulting Services Inc.
11687 Lebanon Road
Cincinnati, Ohio 45241

Re: 21-0791; South Canton - Sunnyside 138 kV Line Rebuild Project

Project: The proposed project involves rebuilding approximately 5.5 miles of existing 138 kV transmission line.

Location: The proposed project is located in Canton and East Sparta, Stark County, Ohio.

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

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

Shore-growing peat moss (*Sphagnum riparium*), E
Brush-tipped emerald (*Somatochlora walshii*), E
Bolivar Reservoir – Muskingum Watershed Conservancy District

The review was performed on the project area specified in the request as well as an additional one mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity. Additional comments on some of the features may be found in pertinent sections below.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federal endangered, and FT = federal threatened.

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

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

The portion of the project from Fohl Street Southwest to the southern terminus is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH \geq 20 if possible.

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

The project is within the range of the long-solid (*Fusconaia maculata maculata*), a state endangered mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.

The project is within the range of the Iowa darter (*Etheostoma exile*), a state endangered fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.

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

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

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

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

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

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

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

Mike Pettegrew
Environmental Services Administrator (Acting)

From: [Ohio, FW3](#)
To: [Godec, Daniel](#)
Cc: nathan.reardon@dnr.state.oh.us; [Parsons, Kate](#)
Subject: AEP South Canton - Sunnyside 138 kV Line Rebuild, Stark County, Ohio
Date: Monday, August 30, 2021 9:09:38 AM



TAILS# 03E15000-2021-TA-2145

Dear Mr. Godec,

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

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

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥ 3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches dbh cannot be avoided, we recommend removal of any trees ≥ 3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the

Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

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

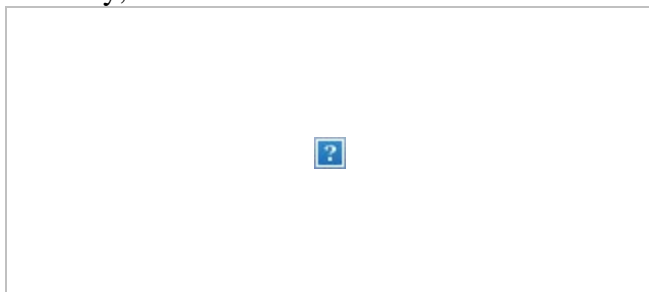
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus it is important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing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

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

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

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,



Patrice M. Ashfield

Field Office Supervisor

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

LETTER OF NOTIFICATION FOR THE SOUTH CANTON – SUNNYSIDE 138 KV TRANSMISSION LINE PROJECT

Appendix E Ecological Survey Report and Addendum



**South Canton-Sunnyside 138 kV
Line Rebuild Project, Stark
County, Ohio**

Ecological Survey Report

Prepared for:

AEP Ohio Transmission Company, Inc.
8600 Smiths Mill Road
New Albany, OH 43054

Prepared by:

Stantec Consulting Services, Inc.
11687 Lebanon Road
Cincinnati, OH 45241

March 16, 2023

Sign-off Sheet

This document entitled Ecological Survey Report, South Canton-Sunnyside 138 kV Line Rebuild Project, Stark County, Ohio was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of AEP Ohio Transmission Company, Inc. Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by Kate Bomar
(signature)

Kate Bomar

Reviewed by Daniel J. Godec
(signature)

Dan Godec

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ECOLOGICAL SURVEY REPORT, SOUTH CANTON-SUNNYSIDE 138 KV LINE REBUILD PROJECT, STARK COUNTY, OHIO

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ECOLOGICAL SURVEY REPORT, SOUTH CANTON-SUNNYSIDE 138 KV LINE REBUILD PROJECT, STARK COUNTY, OHIO

Introduction
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1.0 INTRODUCTION

AEP Ohio Transmission Company, Inc. (AEP) is proposing construction activities associated with the South Canton-Sunnyside 138 kV Line Rebuild Project. The Project includes rebuilding approximately 5.5 miles of the existing South Canton-Sunnyside 138 kV transmission line. The Project will begin near East Sparta, Stark County, Ohio at existing structure number 282 (located south of Brinker Street) and will end at the existing Sunnyside Station facility near Canton, Stark County, Ohio (Figure 1, Appendix A). The Project area was surveyed for wetlands, waterbodies, open water features, and potential threatened, endangered, and rare species habitat by Stantec Consulting Services Inc. (Stantec) biologists on March 14-18, 2022. The approximate locations of features located up to 50 feet outside of the Project area were also recorded during the field surveys, where landowner access was permitted. However, no data forms were collected on features that did not extend into the Project area. The approximate locations of these features are shown on the Figure 2 maps in Appendix A as “approximate” wetlands, streams (waterways), open waters, and upland drainage features.

Methods
March 16, 2023

2.0 METHODS

2.1 WETLAND DELINEATION

Prior to completing the field surveys, a desktop review of the Project area was conducted using U.S. Geological Survey (USGS) topographic mapping, National Wetlands Inventory (NWI) maps, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, and aerial imagery mapping. Stantec completed a wetland delineation study in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (USACE 2012a), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)* (USACE 2012b). Wetland categories were classified using the Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001).

2.2 STREAM DELINEATION

Streams that demonstrated a continuously defined channel (bed and bank), ordinary high water mark (OHWM), and the disturbance of terrestrial vegetation were delineated within the Project area, per the protocols outlined in the USACE's *Guidance on Ordinary High Water Mark Identification* (Regulatory Guidance Letter, No. 05-05) (USACE 2005). Delineated streams were classified as ephemeral, intermittent, or perennial per definitions in the *Federal Register/Vol. 67, No. 10* (USACE 2002). Functional assessment of streams within the Project area was based on completion of the Ohio Environmental Protection Agency's (OEPA) *Headwater Habitat Evaluation Index (HHEI; OEPA 2018)* and/or *Qualitative Habitat Evaluation Index (QHEI; OEPA 2006)*. The centerline of each waterway and/or the OHWM of each waterway was identified and surveyed using a handheld sub-meter accuracy global positioning system (GPS) unit and mapped with geographic information system (GIS) software. Additionally, the locations of ponds/open water features and upland drainage features (which lacked a continuously defined bed and bank/OHWM) identified within the Project area were also recorded with a sub-meter accuracy GPS unit during the field surveys.

2.3 RARE SPECIES

Prior to conducting the field surveys, Stantec contacted the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) for information regarding rare, threatened, or endangered species and their habitats of concern within the vicinity of the Project area (Appendix B – Agency Correspondence). To assess potential impacts to rare, threatened, or endangered species, Stantec scientists conducted a pedestrian reconnaissance of the proposed Project area, collected information on existing habitats within the Project area, and assessed the potential for these habitats to be used by federally listed or state-listed species that have the potential to occur within Stark County.

Results
March 16, 2023

3.0 RESULTS

3.1 TERRESTRIAL HABITAT

Stantec completed field surveys for threatened and endangered species or their habitats on March 14-18, 2022. Figure 3 (Appendix A) shows the vegetation communities/habitats identified within the Project area and the locations of any identified rare, threatened, or endangered species habitat observed within the Project area during the time of the habitat assessment surveys. Representative photographs of the vegetation communities/habitats and land cover types identified within the Project area are included in Appendix C of this report (photo locations are shown on Figure 3, Appendix A). Information regarding the vegetation communities/habitats/land cover types identified within the Project area is provided in Table 1.

Table 1. Vegetation Communities and Land Cover Found within the South Canton-Sunnyside 138 kV Line Rebuild Project Area, Stark County, Ohio

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Agricultural Field	Extreme Disturbance/Ruderal Community dominated by planted row crop species such as corn (<i>Zea mays</i>) and soybean (<i>Glycine max</i>).	No	1.5
Old Field	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders and/or native highly tolerant taxa). Common plant species included Fuller's teasel (<i>Dipsacus fullonum</i>), Allegheny blackberry (<i>Rubus allegheniensis</i>), Amur honeysuckle (<i>Lonicera maackii</i>), reed canarygrass (<i>Phalaris arundinacea</i>), giant ironweed (<i>Vernonia gigantea</i>), Canada goldenrod (<i>Solidago canadensis</i>), poison hemlock (<i>Conium maculatum</i>), broomsedge bluestem (<i>Andropogon virginicus</i>), multiflora rose (<i>Rosa multiflora</i>), Japanese bristlegrass (<i>Setaria faberi</i>), American pokeweed (<i>Phytolacca americana</i>), Queen Anne's lace (<i>Daucus carota</i>), common evening primrose (<i>Oenothera biennis</i>), deertongue (<i>Dichanthelium clandestinum</i>), Indianhemp (<i>Apocynum cannabinum</i>), hairy white oldfield aster (<i>Symphotrichum pilosum</i>), common selfheal (<i>Prunella vulgaris</i>), lesser burdock (<i>Arctium</i>	No	20.6

ECOLOGICAL SURVEY REPORT, SOUTH CANTON-SUNNYSIDE 138 KV LINE REBUILD PROJECT, STARK COUNTY, OHIO

Results
March 16, 2023

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
	<i>minus</i>) and purpletop tridens (<i>Tridens flavus</i>).		
New Field	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders and/or native highly tolerant taxa). Common plant species included reed canarygrass, Canada goldenrod, tall fescue (<i>Schedonorus arundinaceus</i>), common milkweed (<i>Asclepias syriaca</i>), broomsedge bluestem, timothy (<i>Phleum pratense</i>), Kentucky bluegrass (<i>Poa pratensis</i>), smooth brome (<i>Bromus inermis</i>), curly dock (<i>Rumex crispus</i>), and common mullein (<i>Verbascum thapsus</i>).	No	7.2
Pasture	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders and/or native highly tolerant taxa). Common plant species included tall fescue, Kentucky bluegrass, white clover (<i>Trifolium repens</i>), red clover (<i>Trifolium pratense</i>), common dandelion (<i>Taraxacum officinale</i>), Canada thistle (<i>Cirsium arvense</i>), common milkweed, Carolina horsenettle (<i>Solanum carolinense</i>), and Japanese bristlegrass.	No	8.4
Residential Lawn	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders and/or native highly tolerant taxa). Common plant species included bermudagrass (<i>Cynodon dactylon</i>), common dandelion, white clover, Kentucky bluegrass, narrowleaf plantain (<i>Plantago lanceolata</i>), tall fescue, and perennial ryegrass (<i>Lolium perenne</i>).	No	7.8
Existing Paved Roadway/Surface	Extreme Disturbance/existing paved road or other paved area.	No	3.1
Existing Railroad Grade	Extreme Disturbance/Ruderal Community (little to no vegetation is present in these habitats).	No	0.05
Existing Gravel Drive	Extreme Disturbance/Ruderal Community (little to no vegetation is present in these habitats).	No	0.3

ECOLOGICAL SURVEY REPORT, SOUTH CANTON-SUNNYSIDE 138 KV LINE REBUILD PROJECT, STARK COUNTY, OHIO

Results
March 16, 2023

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Early Successional Deciduous Forest	Moderate Disturbance/Natural Community (dominated by native woody and herbaceous species and/or opportunistic invaders). Common plant species included multiflora rose, glossy buckthorn (<i>Frangula alnus</i>), silky dogwood (<i>Cornus amomum</i>), Allegheny blackberry, Morrow's honeysuckle (<i>Lonicera morrowii</i>), Canada wildrye (<i>Elymus canadensis</i>), American pokeweed, honeylocust (<i>Gleditsia triacanthos</i>), and American hazelnut (<i>Corylus americana</i>).	No	18.3
Second Growth Coniferous Forest	Moderate Disturbance/Planted Community (dominated by non-native woody species). Common plant species included Norway spruce (<i>Picea abies</i>).	No	0.3
Industrial Land	Extreme Disturbance/Ruderal Community (little to no vegetation is present in these habitats).	No	0.7
Palustrine Emergent Wetland	Moderate Disturbance/Natural Community (dominated by native herbaceous species and/or opportunistic invaders). Common plant species included reed canarygrass, broadleaf cattail (<i>Typha latifolia</i>), common rush (<i>Juncus effusus</i>), woolgrass (<i>Scirpus cyperinus</i>), deertongue, narrowleaf cattail (<i>Typha angustifolia</i>), sensitive fern (<i>Onoclea sensibilis</i>), purpleleaf willowherb (<i>Epilobium coloratum</i>), Frank's sedge (<i>Carex frankii</i>), shallow sedge (<i>Carex lurida</i>), giant goldenrod (<i>Solidago gigantea</i>), curly dock, Virginia mountainmint (<i>Pycnanthemum virginianum</i>), and steeplebush (<i>Spiraea tomentosa</i>).	No	1.13
Palustrine Scrub-Shrub Wetland	Moderate Disturbance/Natural Community (dominated by native shrub, tree, and herbaceous species and/or opportunistic invaders). Common plant species included silky dogwood, sensitive fern, reed canarygrass, curly dock, and black willow (<i>Salix nigra</i>).	No	2.09

ECOLOGICAL SURVEY REPORT, SOUTH CANTON-SUNNYSIDE 138 KV LINE REBUILD PROJECT, STARK COUNTY, OHIO

Results
March 16, 2023

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Palustrine Unconsolidated Bottom Wetland	Moderate Disturbance/Natural Community (dominated by native herbaceous species). Common plant species included woolgrass.	No	0.08
TOTAL			71.55

3.2 WETLANDS

Stantec completed field surveys within the Project area on March 14-18, 2022, for wetlands. As a result of the field surveys, Stantec identified 15 wetlands within the Project area. Figure 2 (Appendix A) shows the wetlands identified by Stantec within the Project area. Representative photographs of the wetlands identified within the Project area are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A). Completed wetland determination data forms and ORAM data forms are included in Appendix D. Information regarding the Cowardin classification and ORAM categories of wetlands identified within the Project area is provided in Table 2. A summary of the disposition of NWI-mapped wetlands within the Project area is provided in Table 3.

ECOLOGICAL SURVEY REPORT, SOUTH CANTON-SUNNYSIDE 138 KV LINE REBUILD PROJECT, STARK COUNTY, OHIO

Results
March 16, 2023

Table 2. Summary of Wetland Resources Found within the South Canton-Sunnyside 138 kV Line Rebuild Project Area, Stark County, Ohio

Wetland ID	Location		Isolated? ¹	Habitat Type ²	Delineated Area (acre)	ORAM		Nearest Proposed Structure Number	Existing Structure Number in Wetland	Proposed Structure Number in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude				Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
Wetland 1	40.77778	-81.355948	No	PEM ³	0.03	21	1	307	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 2	40.76774	-81.360679	No	PEM ³	0.17	21	1	303	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 3	40.76272	-81.362945	No	PEM ³	0.08	23	1	302	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 4	40.76081	-81.364142	No	PEM ³ /PSS ⁴	2.09	41	Mod 2	301/302	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 5	40.74783	-81.378837	No	PEM ³ / PSS ⁴	0.15	31	2	294	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 6	40.73835	-81.387322	No	PUB ⁵	0.08	26	1	290	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 7	40.73918	-81.386521	No	PEM ³	0.01	27	1	291	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 8	40.74135	-81.384733	No	PSS ⁴	0.09	33	2	292	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 9	40.74257	-81.383822	No	PEM ³	0.16	21	1	292	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 10	40.7441	-81.382509	No	PEM ³	0.02	20	1	293	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 11	40.7448	-81.381954	No	PEM ³	0.04	28	1	293	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 12	40.74495	-81.381753	No	PSS ⁴	0.26	27	1	293	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 13	40.74574	-81.381201	No	PSS ⁴	0.09	28	1	294	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 14	40.72346	-81.39978	No	PEM ³	0.02	22	1	285	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
Wetland 15	40.73075	-81.393475	No	PEM ³	0.01	24	1	288	N/A	N/A	TBD ⁶	TBD ⁶	TBD ⁶
TOTAL					3.30							0.000	0.000

¹Preliminary jurisdictional determinations were made in concurrence with the U.S. Supreme Court decision following Rapanos v United States, prior to the establishment of the Navigable Waters Protection Rule. ²Wetland classification is based on Cowardin et al. (1979).
³PEM = Palustrine Emergent Wetland
⁴PSS = Palustrine Scrub-Shrub Wetland
⁵PUB = Palustrine Unconsolidated Bottom Wetland
⁶TBD = To be determined. Impact information and/or structure installation method is unknown at this time.

ECOLOGICAL SURVEY REPORT, SOUTH CANTON-SUNNYSIDE 138 KV LINE REBUILD PROJECT, STARK COUNTY, OHIO

Results
March 16, 2023

Table 3. Summary of NWI Disposition within the South Canton-Sunnyside 138 kV Line Rebuild Project Area, Stark County, Ohio

NWI Code	NWI Description	Figure 2 Page Number	Related Field Inventoried Resource(s)	Comments
R4SBC	Riverine, intermittent, streambed, seasonally flooded	2	Stream 17	Stream 17 was delineated within the mapped NWI feature. The HHEI data form is available in Appendix D. Representative photographs are available in Appendix C.
PEM1C	Palustrine, emergent, persistent, seasonally flooded	2	Open Water 1	Open Water 1 was delineated within the mapped NWI feature. Representative photographs are available in Appendix C.
PUBG	Palustrine, unconsolidated bottom, intermittently exposed	2	Open Water 1	Open Water 1 was delineated within the mapped NWI feature. Representative photographs are available in Appendix C.
R4SBC	Riverine, intermittent, streambed, seasonally flooded	2	Stream 16	Stream 16 was delineated within the mapped NWI feature. The HHEI data form is available in Appendix D. Representative photographs are available in Appendix C.
R4SBC	Riverine, intermittent, streambed, seasonally flooded	3	Stream 11	Stream 11 was delineated near the mapped NWI feature. The HHEI data form is available in Appendix D. Representative photographs are available in Appendix C.
R4SBC	Riverine, intermittent, streambed, seasonally flooded	5	Stream 14	Stream 14 was delineated within the mapped NWI feature. The HHEI data form is available in Appendix D. Representative photographs are available in Appendix C.
PUBG	Palustrine, unconsolidated bottom, intermittently exposed	6	Wetland 6	Wetland 6 (PUBG) was delineated within the mapped NWI feature. The ORAM data form and associated wetland determination data forms for Wetland 4 are available in Appendix D. Representative photographs are available in Appendix C.
R4SBC	Riverine, intermittent, streambed, seasonally flooded	7	Stream 8	Stream 8 was delineated within the mapped NWI feature. The HHEI data form is available in Appendix D. Representative photographs are available in Appendix C.
PFO1C	Palustrine, forested, broad-leaved deciduous, seasonally flooded	9	SP01	Wetland determination sample point SP01 was evaluated within the mapped NWI feature. This sample point documented upland old field habitat. The wetland determination data form for SP01 is available in Appendix D and representative photographs are available in Appendix C.
R2UBG	Riverine, lower perennial,	9	Stream 1	Stream 1 (Nimishillen Creek) was delineated within the mapped NWI feature. The QHEI data form is available in Appendix D. Representative photographs are available in Appendix C.

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NW I Code	NW I Description	Figure 2 Page Number	Related Field Inventoried Resource(s)	Comments
	unconsolidated bottom, intermittently exposed			
R4SBC	Riverine, intermittent, streambed, seasonally flooded	10	Stream 5	Stream 5 was delineated within the mapped NW I feature. The HHEI data form is available in Appendix D. Representative photographs are available in Appendix C.
R4SBC	Riverine, intermittent, streambed, seasonally flooded	11	Stream 5	Stream 5 was delineated within the mapped NW I feature. The HHEI data form is available in Appendix D. Representative photographs are available in Appendix C.

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3.3 STREAMS

Stantec completed field surveys for streams (waterways) within the Project area on March 14-18, 2022. Figure 2 (Appendix A) shows the locations of streams identified by Stantec within the Project area. Representative photographs of the streams are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A). Completed QHEI and HHEI data forms for the identified streams are included in Appendix D. Information regarding the identified streams is provided in Table 4.

Table 4. Summary of Stream Resources Found within the South Canton-Sunnyside 138 kV Line Rebuild Project Area, Stark County, Ohio

Stream ID	Location		Stream Type	Stream Name ¹	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score ^{2,3}	Category/ Rating/ OAC Use Designation ^{2,3,4}			Fill Type	Area (acre)
Stream 1	40.753388	-81.371449	Perennial	Nimishillen Creek	138	75	67	QHEI	40.5	Warmwater Habitat	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 2	40.753191	-81.371839	Ephemeral	UNT to Nimishillen Creek	50	3	1	HHEI	15	Class I PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 3	40.77379	-81.35795	Intermittent	UNT to Sherrick Run	104	5	2.75	HHEI	45	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 4	40.76316	-81.36258	Intermittent	UNT to Nimishillen Creek	342	6.5	6	HHEI	39	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 5 (upstream)	40.75984	-81.36486	Intermittent	UNT to Nimishillen Creek	1,164	8	3.5	HHEI	63	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 5 (middle)	40.75778	-81.36655	Intermittent	UNT to Nimishillen Creek		11.5	6	HHEI	68	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 5 (downstream)	40.75703	-81.36692	Intermittent	UNT to Nimishillen Creek		9.8	5.5	HHEI	61	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 6	40.74785	-81.3788	Ephemeral	UNT to Nimishillen Creek	137	3.9	2.5	HHEI	45	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵

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Stream ID	Location		Stream Type	Stream Name ¹	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score ^{2,3}	Category/ Rating/ OAC Use Designation ^{2,3,4}			Fill Type	Area (acre)
Stream 7	40.74813	-81.37822	Ephemeral	UNT to Nimishillen Creek	40	3.9	2.5	HHEI	27	Modified Class I PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 8	40.74116	-81.38500	Intermittent	UNT to Nimishillen Creek	152	8.2	3	HHEI	54	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 9	40.74279	-81.38356	Ephemeral	UNT to Nimishillen Creek	176	6.6	2.5	HHEI	53	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 10	40.74576	-81.38111	Ephemeral	UNT to Nimishillen Creek	220	4.9	2.5	HHEI	43	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 11 (upstream)	40.72357	-81.39981	Ephemeral	UNT to Sandy Creek	72	3.3	1.75	HHEI	18	Modified Class I PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 11 (downstream)	40.72332	-81.39970	Ephemeral	UNT to Sandy Creek		3.3	1.75	HHEI	40	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 12	40.72521	-81.39815	Ephemeral	UNT to Bear Run	33	2.46	1.25	HHEI	13	Modified Class I PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 13	40.72731	-81.39656	Intermittent	UNT to Bear Run	113	6.6	2.25	HHEI	51	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 14	40.7.065	-81.39360	Intermittent	UNT to Sandy Creek	117	8.2	3.5	HHEI	50	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 15 (Beal Run)	40.73306	-81.39176	Ephemeral	Beal Run	79	9.8	3.5	HHEI	39	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 16	40.72088	-81.40210	Intermittent	UNT to Bear Run	143	6.6	4	HHEI	64	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
Stream 17	40.71679	-81.40573	Intermittent	UNT to Bear Run	163	9.8	6	HHEI	69	Modified Class II PHW	Eligible	TBD ⁵	TBD ⁵	TBD ⁵
TOTAL:					3,243									0

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Stream ID	Location		Stream Type	Stream Name ¹	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score ^{2,3}	Category/ Rating/ OAC Use Designation ^{2,3,4}			Fill Type	Area (acre)
¹ UNT = Unnamed Tributary ² Based on the designated use evaluation presented in the Field Methods for Evaluating Primary Headwater Habitat Streams in Ohio, Version 4.0 (OEPA 2018). ³ Based on the designated use evaluation presented in the Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (OEPA 2006). ⁴ Based on Ohio Administrative Code (OAC) 3745-1-16. ⁵ TBD – To be determined. Impact information is unknown at this time.														

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3.4 OPEN WATERS

One open water (Open Water 1) was identified within the Project area during the field surveys that took place on March 14-18, 2022. Representative photographs of Open Water 1 can be found in Appendix C.

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3.5 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

Table 5. Summary of Potential Federally Listed and Ohio State-Listed Species within the South Canton-Sunnyside 138 kV Line Rebuild Project Area, Stark County, Ohio

Common Name/Scientific Name	State Listed Status ^{1,2}	Federally Listed Status ^{1,3}	Typical Habitat	Habitat Observed	Agency Comments (Appendix B)	Potential Impacts and Avoidance Dates
Plants						
Shore-growing Peat Moss/ <i>Sphagnum riparium</i>	E	N/A	Typically found in weakly to moderately base-rich springs, flushes and in poor fens (BBS 2022).	No suitable habitat was observed within the Project area.	ODNR – The Natural Heritage Database has records of this species within a one-mile radius of the Project area; No other comments received. USFWS – No comments received.	According to the State Listed Wildlife and Plant Species by County list for Stark County (ODNR 2022a), shore-growing peat moss is not found within Stark County. Additionally, no suitable habitat was observed within the Project area. Therefore, impacts to this species are not anticipated and avoidance activities are not applicable.
Insects						
Brush-tipped Emerald/ <i>Somatochlora walshii</i>	E	N/A	The habitat preference for the brush-tipped emerald includes small, slow-flowing streams that flow through open bogs, sedge fens, marshes, and meadows. This species can also be found at lake or pond outlets (Dunkle 2000; Paulson 2009).	No suitable habitat was observed within the Project area.	ODNR – The Natural Heritage Database has records of this species within a one-mile radius of the Project area; No other comments received. USFWS – No comments received.	No suitable habitat was observed within the Project area. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
Reptiles						
Spotted Turtle/ <i>Clemmys guttata</i>	E	N/A	Spotted turtles inhabit mostly unpolluted, shallow bodies of water with a soft bottom and aquatic vegetation, such as small marshes, marshy pastures, bogs, fens, woodland streams, swamps, small ponds, vernal pools, and lake margins; in some areas they occur in brackish tidal streams. Ponds surrounded by relatively undisturbed meadow or undergrowth are most favorable. These turtles favor waters with a soft bottom and aquatic vegetation (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR – The Project is within the range of the spotted turtle. Due to the location, the type of habitat within the Project area, and the type of work proposed, this Project is not likely to impact this species. USFWS – No comments received.	No suitable habitat was observed within the Project area. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
Fishes						

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Common Name/Scientific Name	State Listed Status ^{1,2}	Federally Listed Status ^{1,3}	Typical Habitat	Habitat Observed	Agency Comments (Appendix B)	Potential Impacts and Avoidance Dates
Iowa Darter/ <i>Etheostoma exile</i>	E	N/A	This species is typically found in natural lakes and very sluggish streams or marshes with dense aquatic vegetation and clear waters over sandy substrates. In Ohio, this species has been found in pothole or kettle lakes (ODNR 2018).	No suitable habitat was observed within the Project area.	ODNR – The Project is within the range of the Iowa darter. ODNR recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this Project is not likely to impact this species. USFWS – No comments received.	No suitable habitat for this species was observed within the Project area and no in-water work in perennial streams is proposed by AEP. Therefore, impacts to this species are not anticipated and avoidance dates are not applicable.
Mussels						
Long solid/ <i>Fusconaia maculata maculata</i>	E	N/A	This species is found in medium to large rivers with a strong current and often in sand and gravel (NatureServe 2022).	No suitable habitat was observed within the Project area	ODNR – The Project area is within the range of the long-solid mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS – No comments received.	No suitable habitat was observed within the Project area. Additionally, no in-water work in perennial streams is proposed by AEP. Therefore, impacts to this species are not anticipated and avoidance dates are not applicable.
Mammals						
Indiana Bat/ <i>Myotis sodalis</i>	E	E	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas; Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007; USFWS 2022). Roosts have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	Potentially suitable summer roosting and foraging habitat was observed within early successional deciduous forest habitats within the Project area (Figure 3, Appendix A). No potentially suitable hibernacula were observed within the Project area.	ODNR – The entire state of Ohio is within the range of the Indiana bat. If trees are present within the Project area and trees must be cut the ODNR recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with dbh ≥ 20 if possible. In addition, ODNR recommends a desktop habitat assessment, followed by field a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the Project area, please send this information to Erin Hazelton for project recommendations. USFWS – Should the proposed project site contain trees ≥3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to	Potentially suitable summer roosting and foraging habitat was observed within early successional deciduous forest habitat areas within the Project area. AEP intends to clear trees between October 1 and March 31. If any summer tree clearing is required, AEP will proceed accordingly with agency recommendations to avoid impacts to this species. Additionally, a desktop bat hibernacula habitat assessment was completed by Stantec. The assessment identified abandoned underground mines within 0.25 miles of the Project area. However, no potentially suitable hibernacula were observed within the Project area during the field surveys completed by Stantec. Avoidance Dates: April 1 – September 30

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Common Name/Scientific Name	State Listed Status ^{1,2}	Federally Listed Status ^{1,3}	Typical Habitat	Habitat Observed	Agency Comments (Appendix B)	Potential Impacts and Avoidance Dates
					avoid adverse effects to Indiana bats. If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year.	
Northern Long-eared Bat/ <i>Myotis septentrionalis</i>	E	T	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2020). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	Potentially suitable summer roosting and foraging habitat was observed within early successional deciduous forest habitats within the Project area (Figure 3, Appendix A). No potentially suitable hibernacula were observed within the Project area.	ODNR – The portion of the Project from Fohl Street Southwest to the southern terminus at existing Structure 282 is within the vicinity of records for the northern long-eared bat. Because presence of this state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (Contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov). USFWS – If no caves or abandoned mines may be disturbed and tree removal is unavoidable, seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) is recommended. Following this seasonal tree clearing recommendation should ensure that no adverse effects to the northern long-eared bat will occur. Incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule.	Potentially suitable summer roosting and foraging habitat was observed within early successional deciduous forest habitat areas within the Project area. AEP intends to clear trees between October 1 and March 31. If any summer tree clearing is required, AEP will proceed accordingly with agency recommendations to avoid impacts to this species. Additionally, a desktop bat hibernacula habitat assessment was completed by Stantec. The assessment identified abandoned underground mines within 0.25 miles of the Project area. However, no potentially suitable hibernacula were observed within the Project area during the field surveys completed by Stantec. Avoidance Dates: April 1 – September 30
Little Brown Bat/ <i>Myotis lucifugus</i>	E	N/A	The little brown bat is found throughout Ohio. This species seems to prefer to forage over water but also forages among trees in rather open areas (Harvey et al. 1999). During summer, it typically inhabits buildings, attics, church belfries, barns and outbuildings, and occasionally more natural habitats such as sloughing bark of a dead tree. During summer, two types of roosts are utilized: day roosts and night roosts. Day roosts are the maternity colony roost, while little brown bats often roost in other areas where they rest and congregate to digest their food in between foraging bouts. In Ohio, this species typically utilizes caves and mines as	Potentially suitable summer roosting and foraging habitat was observed within early successional deciduous forest habitats within the Project area (Figure 3, Appendix A). No potentially suitable hibernacula were observed within the Project area.	ODNR – The entire state of Ohio is within the range of the little brown bat. If trees are present within the Project area and trees must be cut the ODNR recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with dbh ≥ 20 if possible. In addition, ODNR recommends a desktop habitat assessment, followed by field a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the Project area, please send this information to Erin Hazelton for project recommendations. USFWS – No comments received.	Potentially suitable summer roosting and foraging habitat was observed within early successional deciduous forest habitat areas within the Project area. AEP intends to clear trees between October 1 and March 31. If any summer tree clearing is required, AEP will proceed accordingly with agency recommendations to avoid impacts to this species. Additionally, a desktop bat hibernacula habitat assessment was completed by Stantec. The assessment identified abandoned underground mines within 0.25 miles of the Project area. However, no potentially suitable hibernacula were observed within the Project area during the field surveys completed by Stantec. Avoidance Dates: April 1 – September 30

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Common Name/Scientific Name	State Listed Status ^{1,2}	Federally Listed Status ^{1,3}	Typical Habitat	Habitat Observed	Agency Comments (Appendix B)	Potential Impacts and Avoidance Dates
			hibernacula, although at least one hibernaculum was found to be located in an attic of an old building (Brack et al. 2010).			
Tri-colored Bat/ <i>Perimyotis subflavus</i>	E	N/A	The tricolored bat is found throughout Ohio. This species has been found to forage above and within a variety of habitats, including woodlands, agricultural fields, grassy areas, and over streamside vegetation (Sparks et al. 2011). Maternity colonies have often been found within clusters of dead leaves, hanging in trees. Maternity colonies have also been found in or on buildings. Little is known of male tri-colored bats in summer, but it is thought that they are probably solitary and spend their days in similar situations, as well as crevices, caves and mines (Brack et al. 2010). In Ohio, this species typically utilizes caves and mines as hibernacula, utilizing a variety of situations, including very cold areas near cave entrances to deeper passages that seem to be too warm for other species of bats (Brack et al. 2010).	Potentially suitable summer roosting and foraging habitat was observed within early successional deciduous forest habitats within the Project area (Figure 3, Appendix A). No potentially suitable hibernacula were observed within the Project area.	ODNR – The entire state of Ohio is within the range of the tri-colored bat. If trees are present within the Project area and trees must be cut the ODNR recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with dbh ≥ 20 if possible. In addition, ODNR recommends a desktop habitat assessment, followed by field a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the Project area, please send this information to Erin Hazelton for project recommendations. USFWS – No comments received.	Potentially suitable summer roosting and foraging habitat was observed within early successional deciduous forest habitat areas within the Project area. AEP intends to clear trees between October 1 and March 31. If any summer tree clearing is required, AEP will proceed accordingly with agency recommendations to avoid impacts to this species. Additionally, a desktop bat hibernacula habitat assessment was completed by Stantec. The assessment identified abandoned underground mines within 0.25 miles of the Project area. However, no potentially suitable hibernacula were observed within the Project area during the field surveys completed by Stantec. Avoidance Dates: April 1 – September 30
Birds						
Northern Harrier/ <i>Circus hudsonius</i>	E	N/A	Harriers hunt low over grasslands, with wings held in a distinctive dihedral (V-shape). This is a common migrant and winter species; nesters are much rarer, although they occasionally breed in large marshes and grasslands (ODNR 2018). Northern harriers appear to be associated with large tracts of undisturbed habitat. They are uncommon in blocks of contiguous grassland less than 100 hectares (Slater and Rock 2005).	No suitable nesting habitat was observed within the Project area.	ODNR – The Project is within the range of the northern harrier. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this Project is not likely to impact this species. USFWS - No comments received.	Northern harriers require large tracts of wetlands and/or grasslands that are 100 hectares (247 acres) or more for suitable breeding/nesting habitat (Slater and Rock 2005). No suitable nesting habitat (large tracts of wetlands and/or grasslands) were observed within the Project area. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
¹ E=Endangered; T=Threatened; N/A= Not Applicable ² According to ODNR, State Listed Wildlife and Plant Species by County (ODNR 2022a). ³ According to USFWS (2018).						

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4.0 CONCLUSIONS AND RECOMMENDATIONS

Stantec conducted a wetland and waterbodies delineation and a preliminary habitat assessment for threatened and endangered species within the Project area on March 14-18, 2022. Nine PEM wetlands totaling approximately 0.54 acres, two mixed PEM/PSS wetlands totaling approximately 2.24 acres, three PSS wetlands totaling approximately 0.44 acres, and one PUB wetland totaling approximately 0.08 acres were identified within the Project area. Eight ephemeral streams totaling approximately 807 linear feet in length, eight intermittent streams totaling approximately 2,297 linear feet in length, and one perennial stream totaling approximately 138 linear feet in length were identified within the Project area. One open water (Open Water 1) totaling approximately 0.09 acres was also identified within the Project area. See Table 2 and Table 4 for more information regarding wetlands and streams identified within the Project area, respectively. Data forms for the identified wetland and stream features are provided in Appendix D and representative photographs are provided in Appendix C.

The information provided by Stantec regarding wetland and stream boundaries is based on an analysis of the wetland and upland conditions present within the Project area at the time of the field work. The delineations were performed by experienced and qualified professionals using regulatory agency-accepted practices and sound professional judgment.

An ODNR Ohio Natural Heritage Program data request and environmental review request letter was sent to the ODNR Office of Real Estate on August 18, 2021. The ODNR Office of Real Estate response dated September 13, 2021 (Appendix B) states that there are records of the shore-growing peat moss (state listed endangered) and brush-tripped emerald (state listed endangered) within a one-mile radius of the Project area. No potentially suitable habitat for either of these species was observed within the Project area. Additionally, the ODNR State Listed Wildlife and Plant Species by County list indicates shore-growing peat moss is not known to occur in Stark County (ODNR 2022a). Therefore, no impacts to these species are anticipated.

Additionally, a search for unique ecological sites, scenic rivers, state nature preserves, wildlife areas, parks or forests, national wildlife refuges, and other protected natural areas indicated Bolivar Reservoir, managed by the Muskingum Watershed Conservancy District, occurs within a one-mile radius of the Project area. The Project will not impact this reservoir.

The ODNR stated that the portion of the Project area from Fohl Street to existing Structure 282 is within the vicinity of records for the northern long-eared bat. Because presence of a state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting outside this buffer may be acceptable after further consultation with Erin Hazelton at ODNR.

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According to the ODNR, the entire state of Ohio is within the range of the Indiana bat, northern long-eared bat, little brown bat, and the tri-colored bat. If trees are present within the Project area and trees must be cut, the ODNR Division of Wildlife (DOW) recommends cutting only occur from October 1 – March 31, conserving trees with loose, shaggy bark and/or crevices holes, or cavities as well as trees with diameter at breast height (dbh) \geq 20 inches if possible.

The ODNR also recommended that a desktop habitat assessment be conducted, followed by a field assessment if needed, to determine if there are potential bat hibernacula present within 0.25 miles of the Project area. Stantec completed a desktop habitat desktop assessment in accordance with the 2020 Range-wide Indiana Bat Survey Guidelines (USFWS 2022) utilizing available ODNR websites, including data on known abandoned or active mines (ODNR 2022b) and locations of known or suspected karst geology (ODNR 2022c). The desktop assessment identified abandoned underground mines within 0.25 miles of the Project area. However, no potential bat hibernacula were observed by Stantec within the Project area during the field surveys.

The ODNR states that the Project is within the range of the following state-listed and federally listed threatened and endangered species: long solid, Iowa darter, spotted turtle, and the northern harrier. Due to the location, the type of habitat within the Project area, and the type of work proposed, the ODNR concluded that this Project is not like to impact the long solid, Iowa darter, or the spotted turtle.

The ODNR recommends that nesting habitats for the northern harrier be avoided during their nesting period. However, no suitable nesting habitat for the northern harrier (large tracts of grasslands or wetlands) is present within the Project area. Grassland and wetland habitats within the Project area were fragmented and not in the large tracts of undisturbed habitat that the northern harrier requires for nesting habitat (Slater and Rock 2005). Therefore, this Project is not likely to impact this species and nesting season avoidance dates are not applicable.

A technical assistance request letter was also submitted to the USFWS on August 18, 2021. The USFWS response letter dated August 30, 2021, recommends that impacts to wetlands and other water resources be avoided or minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation (Appendix B).

According to the USFWS response, all projects in the State of Ohio lie within range of the federally endangered Indiana bat and the federally threatened northern long-eared bat. In Ohio, presence of these species is assumed wherever suitable habitat occurs unless a presence/probable absence survey has been performed to document probable absence. The USFWS response letter states that, should the Project site contain trees \geq 3 inches dbh, the USFWS recommends trees be saved whenever possible. If any caves or abandoned mines may be disturbed, further coordination is requested. If no caves or abandoned mines are present and trees \geq 3 inches dbh cannot be avoided, the USFWS recommends that removal of trees \geq 3 inches dbh only occur between October 1 and March 31 in order to avoid adverse effects to these species. If implementation of seasonal tree clearing is not possible, the USFWS recommends summer presence/probable absence surveys be conducted between June 1 and August 15,

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Conclusions and Recommendations
March 16, 2023

However, the ODNR states that additional summer surveys would not constitute presence/absence in the area since the Project area is within the vicinity of records for the northern long-eared bat.

Additionally, the USFWS states that they do not anticipate adverse effects to any other federally endangered, threatened, proposed or candidate species due to the Project type, size, and location.

References
March 16, 2023

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References

March 16, 2023

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References

March 16, 2023

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Appendix A FIGURES

A.1 FIGURE 1 – PROJECT LOCATION MAP

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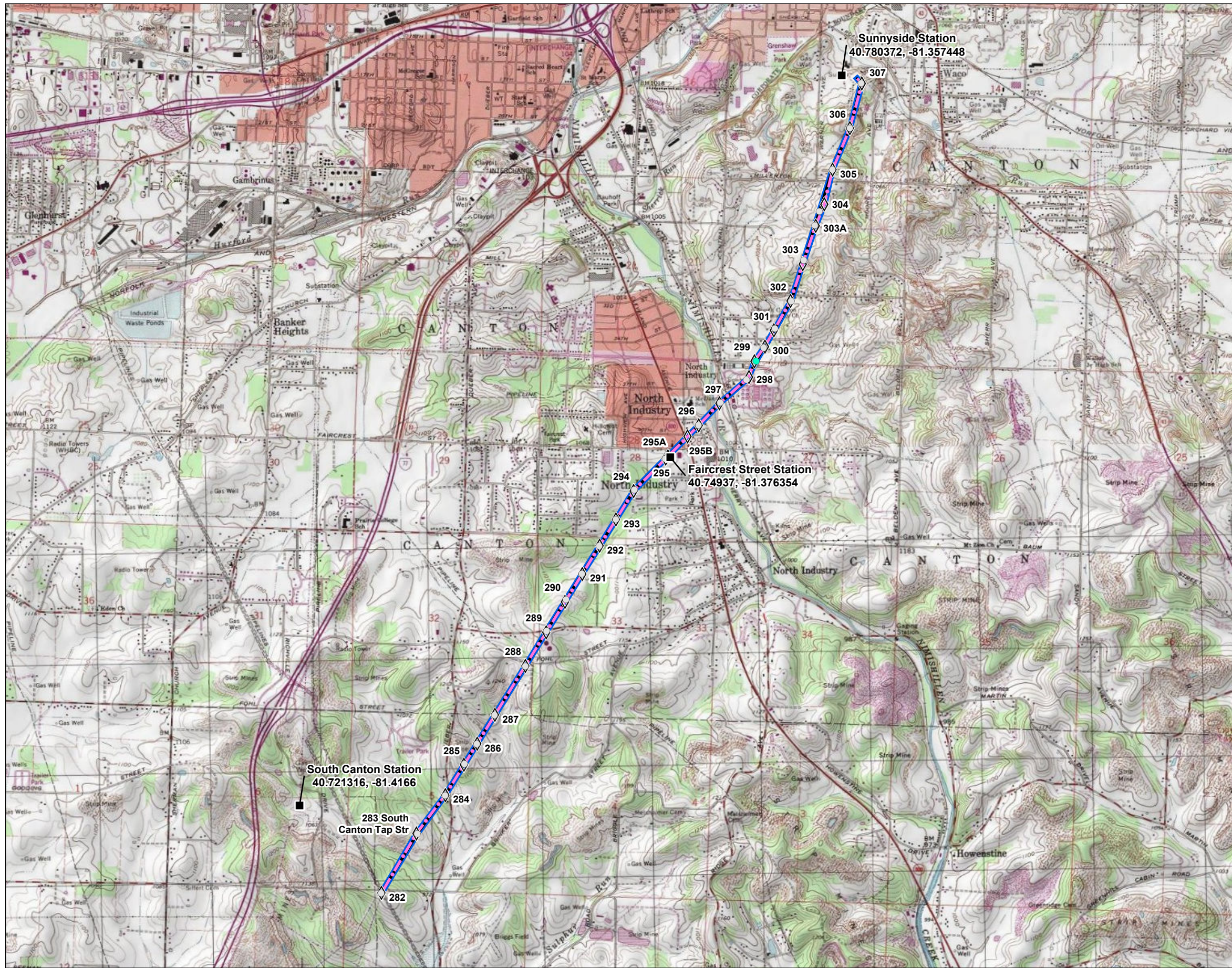


Figure No.

1

Title

Project Location Map

Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

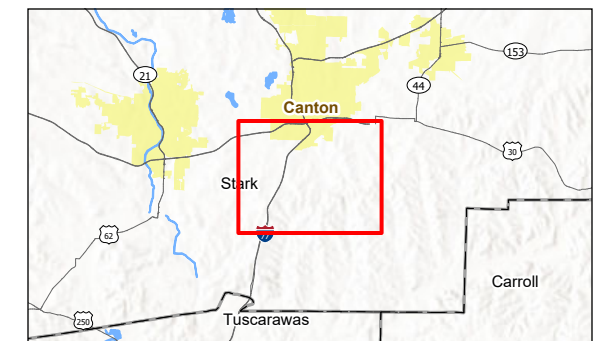
Project Location
Stark County, Ohio
Prepared by J.L.H. on 2022-10-17
TR by K.L.B. on 2023-03-09
IR by A.J.K. on 2023-03-19



0 1,500 3,000 Feet
(At original document size of 11x17)
1:36,000

Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- Existing 138 kV Transmission Line to be Rebuilt
- Proposed 138 kV Transmission Line
- Project Area



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS
3. Background: USGS 7.5' Topographic Quadrangles - Canton East, OH (1985), Canton West, OH (1986), Bolivar, OH (1978), and Waynesburg, OH (1978)



A.2 FIGURE 2 – WETLAND AND WATERBODY DELINEATION MAP

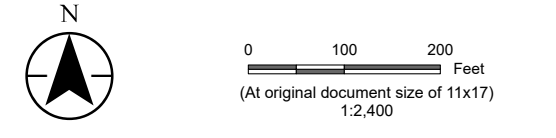


Figure No. **2**
Wetland and Waterbody Delineation Map

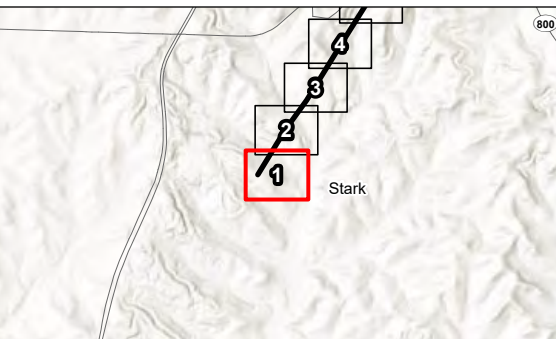
Client/Project
 AEP Ohio Transmission Company, Inc.
 South Canton-Sunnyside
 138 kV Line Rebuild Project

Project Location
 Stark County, Ohio

193708517
 Prepared by JLH on 2022-10-17
 TR by KLB on 2023-03-09
 IR by AJK on 2023-03-13



- Legend**
- | | |
|---|--|
| ■ AEP Substation | Field Delineated Waterway |
| ○ Existing Structure to be Replaced | Approximate Waterway |
| ● Existing Structure to Remain | Field Delineated Waterway Area |
| ◇ Proposed Structure | Field Delineated Open Water |
| Existing 138 kV Transmission Line to be Rebuilt | Approximate Open Water |
| Proposed 138 kV Transmission Line | Field Delineated Emergent Wetland |
| Project Area | Field Delineated Scrub-Shrub Wetland |
| ○ Photo Location | Field Delineated Unconsolidated Bottom Wetland |
| △ Existing Culvert | Approximate Wetland |
| ▲ Storm Drain | National Wetlands Inventory Feature |
| Wetland Determination Sample Point | FEMA Flood Hazard Area |
| Upland Drainage Feature | 100-year Floodplain |
| Approximate Upland Drainage Feature | Floodway |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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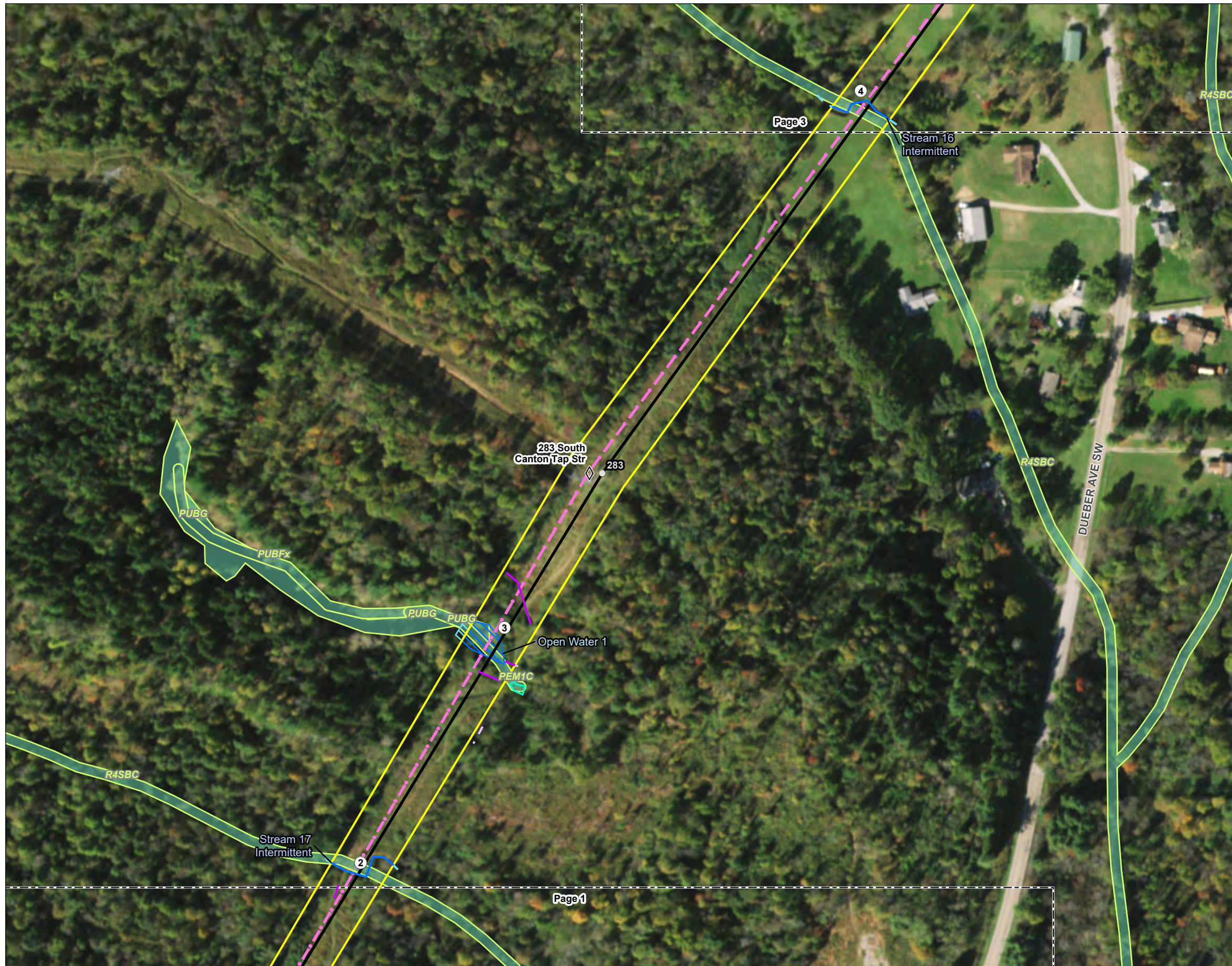
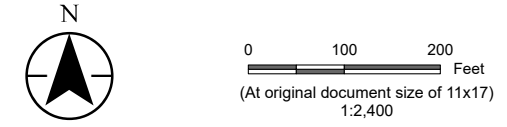


Figure No. **2**
Wetland and Waterbody Delineation Map

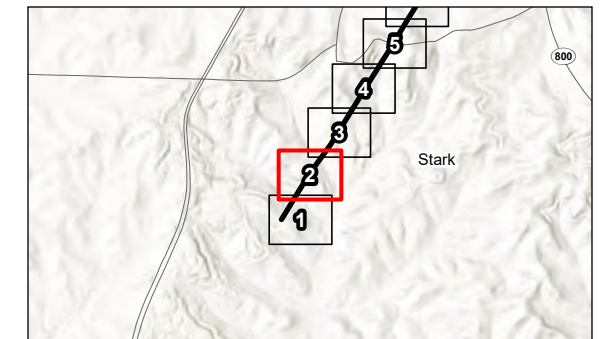
Client/Project
 AEP Ohio Transmission Company, Inc.
 South Canton-Sunnyside
 138 kV Line Rebuild Project
 193708517

Project Location
 Stark County, Ohio

Prepared by JLH on 2022-10-17
 TR by KLB on 2023-03-09
 IR by AJK on 2023-03-13



- Legend**
- | | |
|---|--|
| ■ AEP Substation | Field Delineated Waterway |
| ○ Existing Structure to be Replaced | Approximate Waterway |
| ● Existing Structure to Remain | Field Delineated Waterway Area |
| ◇ Proposed Structure | Field Delineated Open Water |
| Existing 138 kV Transmission Line to be Rebuilt | Approximate Open Water |
| Proposed 138 kV Transmission Line | Field Delineated Emergent Wetland |
| Project Area | Field Delineated Scrub-Shrub Wetland |
| ○ Photo Location | Field Delineated Unconsolidated Bottom Wetland |
| △ Existing Culvert | Approximate Wetland |
| ▲ Storm Drain | National Wetlands Inventory Feature |
| Wetland Determination Sample Point | FEMA Flood Hazard Area |
| Upland Drainage Feature | 100-year Floodplain |
| Approximate Upland Drainage Feature | Floodway |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
 3. Orthophotography: 2019 NAIIP



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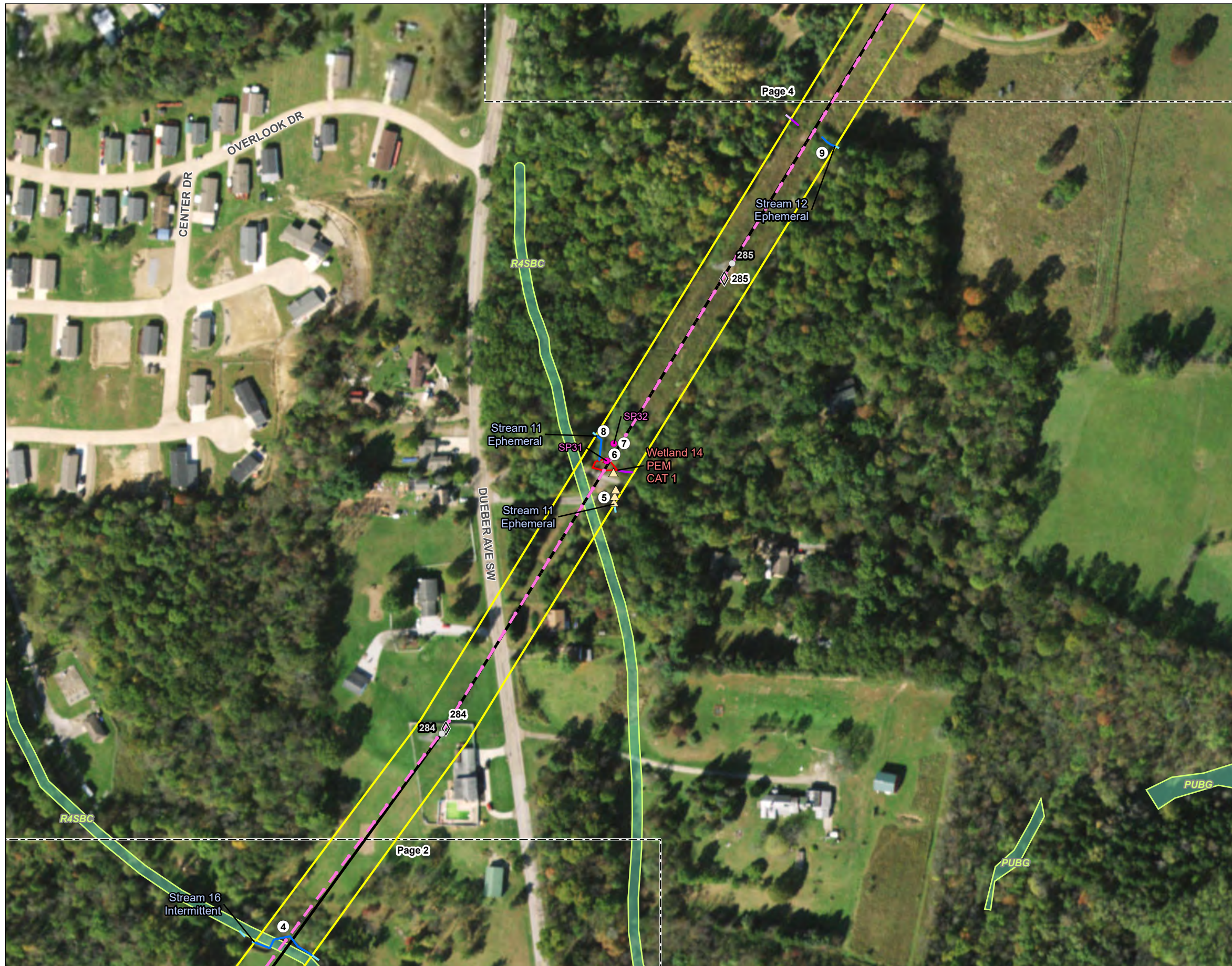
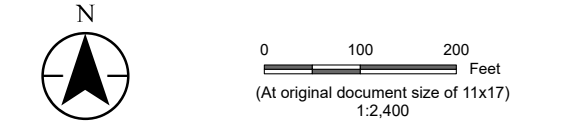


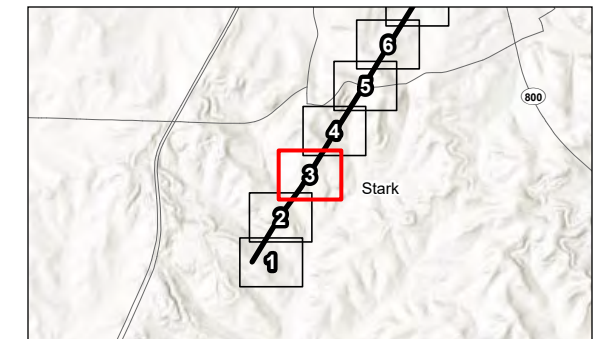
Figure No. **2**
Wetland and Waterbody Delineation Map

Client/Project: AEP Ohio Transmission Company, Inc. South Canton-Sunnyside 138 kV Line Rebuild Project
 Project Location: Stark County, Ohio
 Prepared by: J.L.H. on 2022-10-17, TR by K.L.B. on 2023-03-09, IR by A.J.K. on 2023-03-13



Legend

■ AEP Substation	Field Delineated Waterway
○ Existing Structure to be Replaced	Approximate Waterway
● Existing Structure to Remain	Field Delineated Waterway Area
◇ Proposed Structure	Field Delineated Open Water
Existing 138 kV Transmission Line to be Rebuilt	Approximate Open Water
Proposed 138 kV Transmission Line	Field Delineated Emergent Wetland
Project Area	Field Delineated Scrub-Shrub Wetland
○ Photo Location	Field Delineated Unconsolidated Bottom Wetland
▲ Existing Culvert	Approximate Wetland
▲ Storm Drain	National Wetlands Inventory Feature
● Wetland Determination Sample Point	FEMA Flood Hazard Area
Upland Drainage Feature	100-year Floodplain
Approximate Upland Drainage Feature	Floodway



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
 3. Orthophotography: 2019 NAIP

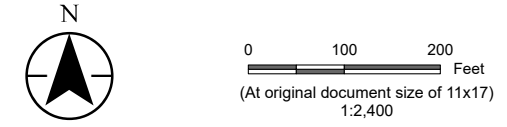


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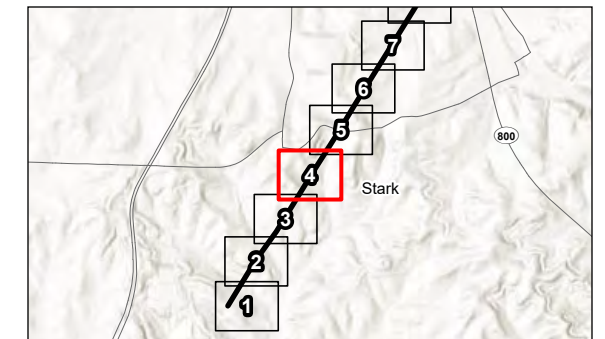


Figure No. **2**
Title **Wetland and Waterbody Delineation Map**

Client/Project 193708517
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project
Project Location Stark County, Ohio Prepared by JLH on 2022-10-17
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



- Legend
- AEP Substation
 - Existing Structure to be Replaced
 - Existing Structure to Remain
 - ◇ Proposed Structure
 - ⚡ Existing 138 kV Transmission Line to be Rebuilt
 - ⚡ Proposed 138 kV Transmission Line
 - ▭ Project Area
 - Photo Location
 - △ Existing Culvert
 - ▲ Storm Drain
 - Wetland Determination Sample Point
 - ⤴ Upland Drainage Feature
 - ⤵ Approximate Upland Drainage Feature
 - ⤴ Field Delineated Waterway
 - ⤵ Approximate Waterway
 - ⤴ Field Delineated Waterway Area
 - ⤵ Field Delineated Open Water
 - ⤴ Approximate Open Water
 - ⤵ Field Delineated Emergent Wetland
 - ⤴ Field Delineated Scrub-Shrub Wetland
 - ⤵ Field Delineated Unconsolidated Bottom Wetland
 - ⤴ Approximate Wetland
 - ⤵ National Wetlands Inventory Feature
 - ⤴ FEMA Flood Hazard Area
 - ⤵ 100-year Floodplain
 - ⤴ Floodway



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: 2019 NAIP



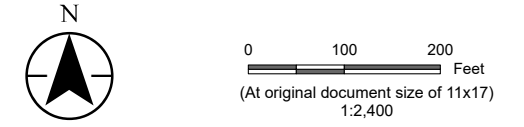
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Figure No. **2**
Title **Wetland and Waterbody Delineation Map**

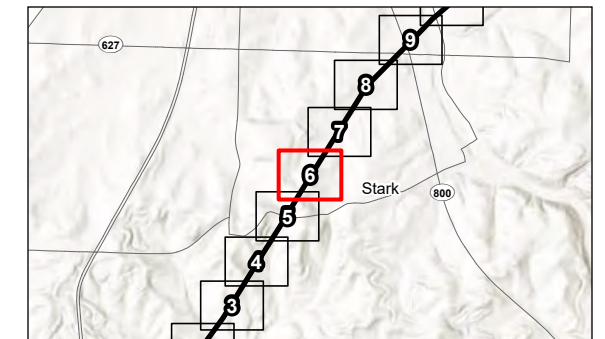
Client/Project 193708517
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project

Project Location Stark County, Ohio Prepared by JLH on 2022-10-17
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



Legend

■ AEP Substation	Field Delineated Waterway
○ Existing Structure to be Replaced	Approximate Waterway
● Existing Structure to Remain	Field Delineated Waterway Area
◇ Proposed Structure	Field Delineated Open Water
Existing 138 kV Transmission Line to be Rebuilt	Approximate Open Water
Proposed 138 kV Transmission Line	Field Delineated Emergent Wetland
Project Area	Field Delineated Scrub-Shrub Wetland
○ Photo Location	Field Delineated Unconsolidated Bottom Wetland
△ Existing Culvert	Approximate Wetland
▲ Storm Drain	National Wetlands Inventory Feature
● Wetland Determination Sample Point	FEMA Flood Hazard Area
Upland Drainage Feature	100-year Floodplain
Approximate Upland Drainage Feature	Floodway



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: 2019 NAIP

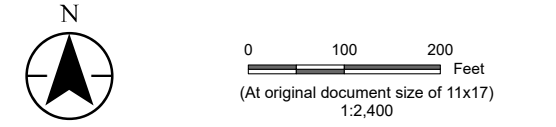


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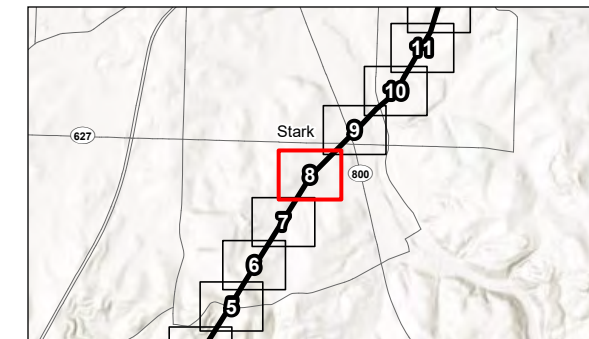


Figure No. **2**
Title **Wetland and Waterbody Delineation Map**

Client/Project 193708517
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project
Project Location Stark County, Ohio Prepared by JLH on 2022-10-17
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



- Legend
- AEP Substation
 - Existing Structure to be Replaced
 - Existing Structure to Remain
 - ◇ Proposed Structure
 - Existing 138 kV Transmission Line to be Rebuilt
 - Proposed 138 kV Transmission Line
 - Project Area
 - Photo Location
 - △ Existing Culvert
 - △ Storm Drain
 - Wetland Determination Sample Point
 - Upland Drainage Feature
 - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - Approximate Waterway
 - Field Delineated Waterway Area
 - Field Delineated Open Water
 - Approximate Open Water
 - Field Delineated Emergent Wetland
 - Field Delineated Scrub-Shrub Wetland
 - Field Delineated Unconsolidated Bottom Wetland
 - Approximate Wetland
 - National Wetlands Inventory Feature
 - FEMA Flood Hazard Area
 - 100-year Floodplain
 - Floodway



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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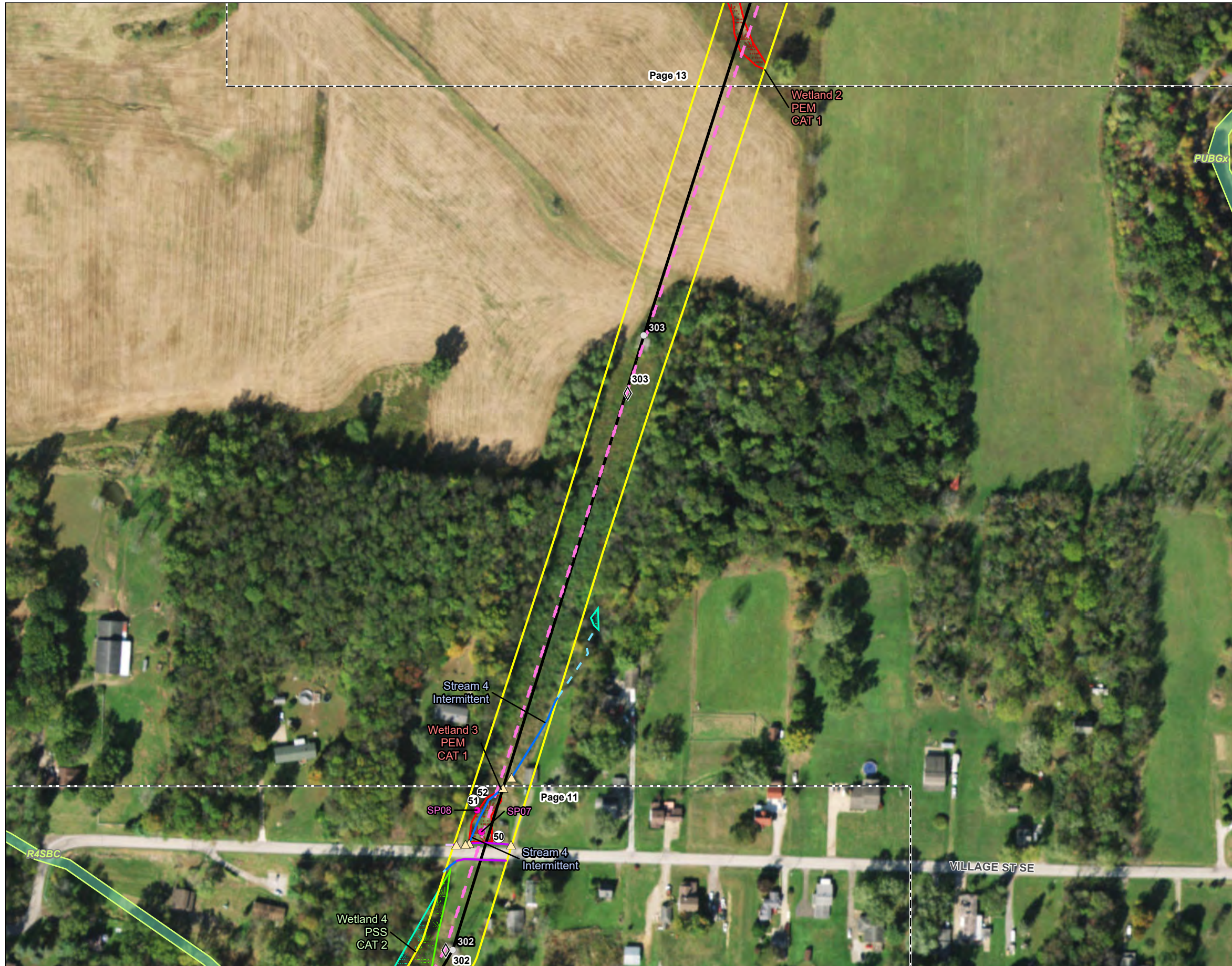


Figure No.

2

Title

Wetland and Waterbody Delineation Map

Client/Project
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project

193708517

Project Location
Stark County, Ohio

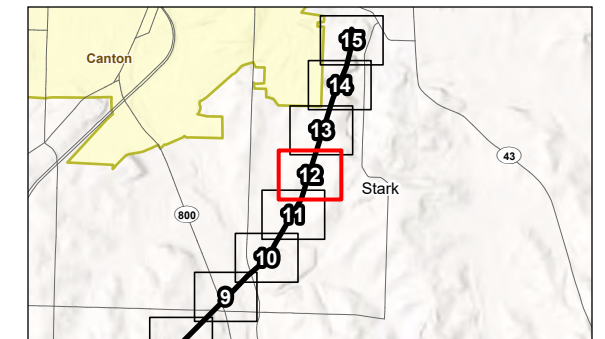
Prepared by JLH on 2022-10-17
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- Existing 138 kV Transmission Line to be Rebuilt
- Proposed 138 kV Transmission Line
- Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- Wetland Determination Sample Point
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Field Delineated Waterway
- Approximate Waterway
- Field Delineated Waterway Area
- Field Delineated Open Water
- Approximate Open Water
- Field Delineated Emergent Wetland
- Field Delineated Scrub-Shrub Wetland
- Field Delineated Unconsolidated Bottom Wetland
- Approximate Wetland
- National Wetlands Inventory Feature
- FEMA Flood Hazard Area
- 100-year Floodplain
- Floodway



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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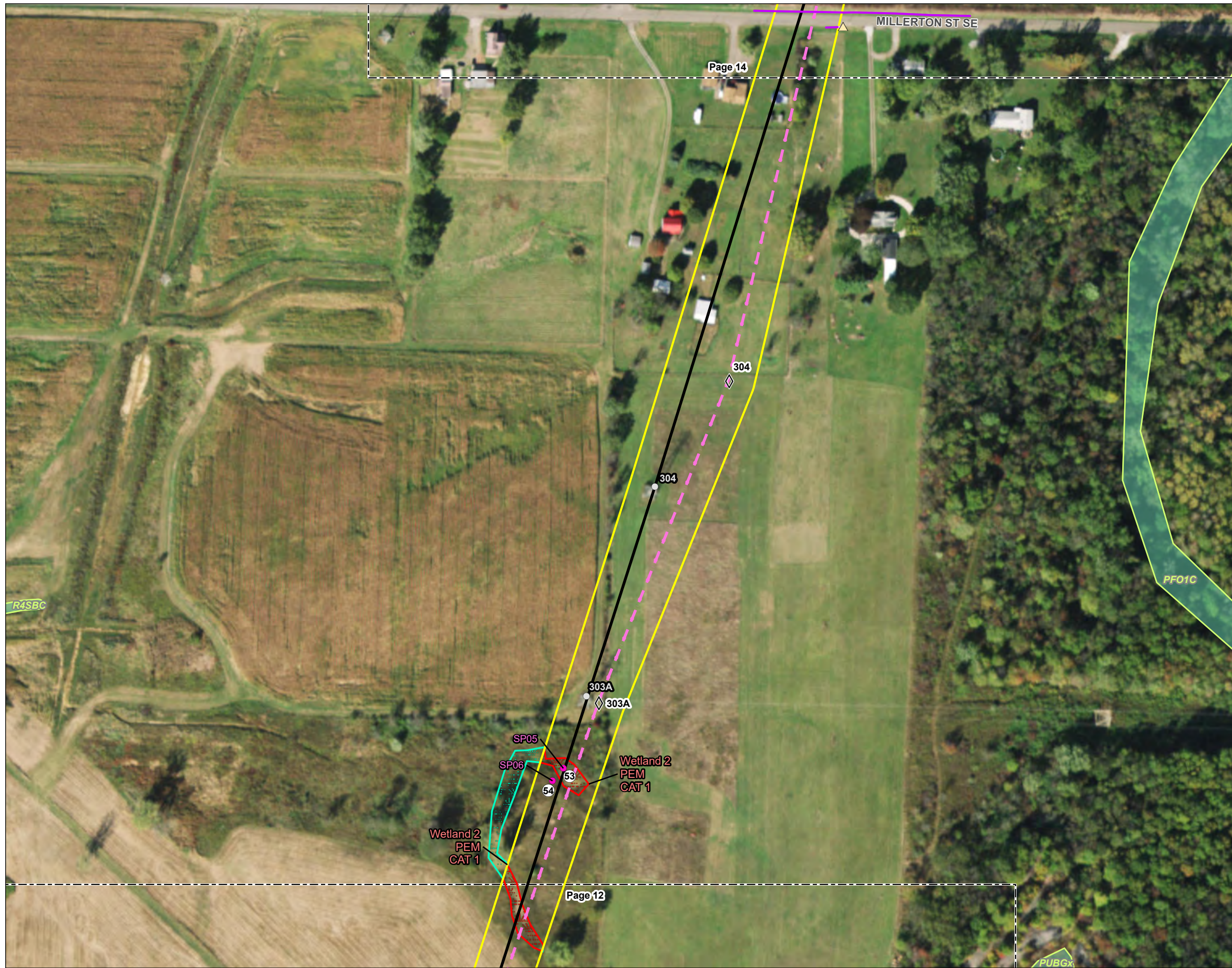


Figure No.

2

Title

Wetland and Waterbody Delineation Map

Client/Project 193708517
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project

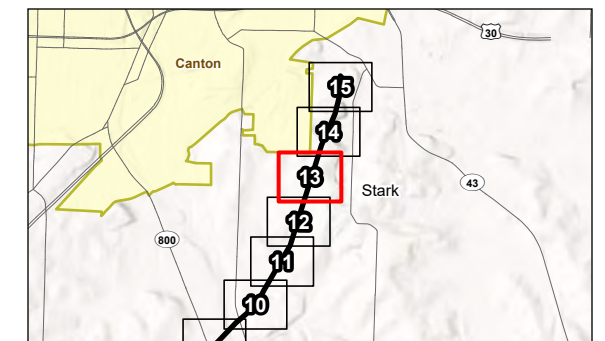
Project Location Stark County, Ohio Prepared by JLH on 2022-10-17
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ▭ Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- Wetland Determination Sample Point
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- ~ Field Delineated Waterway
- ~ Approximate Waterway
- ~ Field Delineated Waterway Area
- ~ Field Delineated Open Water
- ~ Approximate Open Water
- ~ Field Delineated Emergent Wetland
- ~ Field Delineated Scrub-Shrub Wetland
- ~ Field Delineated Unconsolidated Bottom Wetland
- ~ Approximate Wetland
- ~ National Wetlands Inventory Feature
- ~ FEMA Flood Hazard Area
- ~ 100-year Floodplain
- ~ Floodway



- Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
 3. Orthophotography: 2019 NAIP

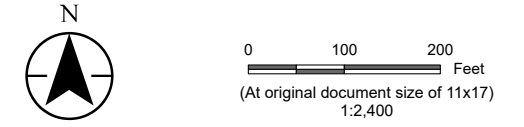


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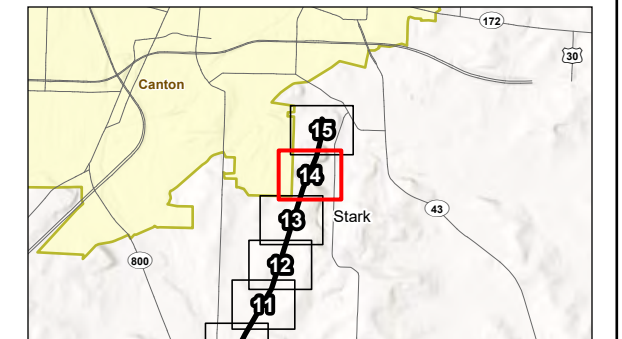


Figure No. **2**
Title **Wetland and Waterbody Delineation Map**

Client/Project 193708517
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project
Project Location Stark County, Ohio Prepared by JLH on 2022-10-17
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



- Legend
- AEP Substation
 - Existing Structure to be Replaced
 - Existing Structure to Remain
 - ◇ Proposed Structure
 - Existing 138 kV Transmission Line to be Rebuilt
 - Proposed 138 kV Transmission Line
 - Project Area
 - Photo Location
 - △ Existing Culvert
 - ▲ Storm Drain
 - Wetland Determination Sample Point
 - Upland Drainage Feature
 - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - Approximate Waterway
 - Field Delineated Waterway Area
 - Field Delineated Open Water
 - Approximate Open Water
 - Field Delineated Emergent Wetland
 - Field Delineated Scrub-Shrub Wetland
 - Field Delineated Unconsolidated Bottom Wetland
 - Approximate Wetland
 - National Wetlands Inventory Feature
 - FEMA Flood Hazard Area
 - 100-year Floodplain
 - Floodway



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: 2019 NAIP



Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

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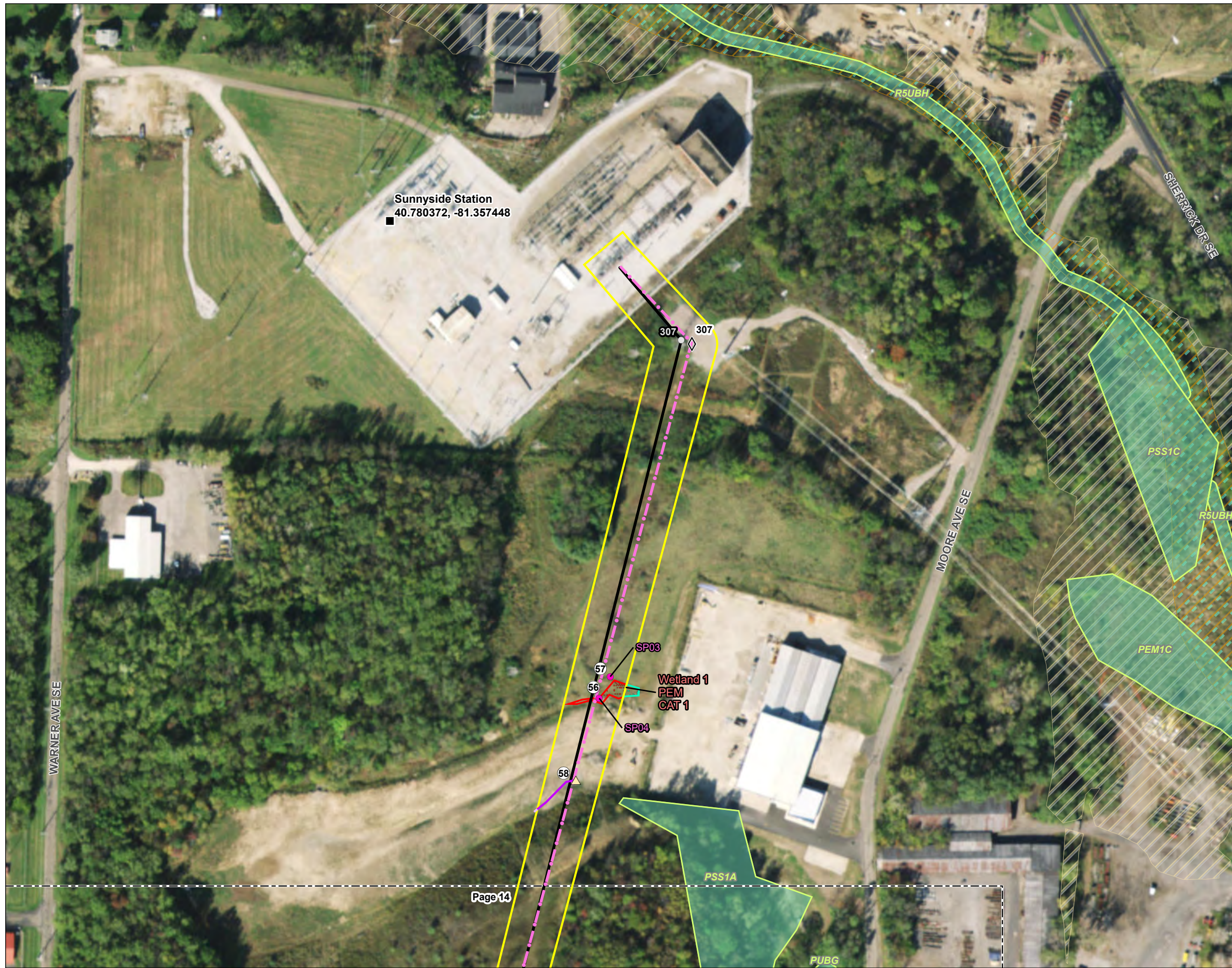
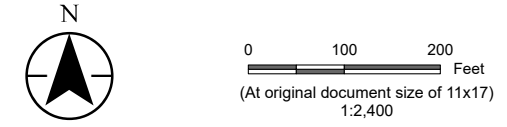
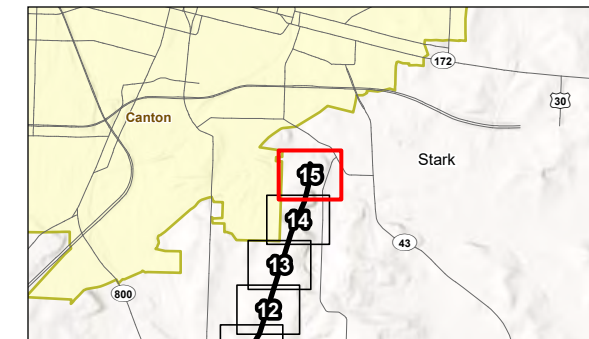


Figure No. 2
Title
Wetland and Waterbody Delineation Map

Client/Project 193708517
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project
Project Location Stark County, Ohio Prepared by JLH on 2022-10-17
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



- Legend
- AEP Substation
 - Existing Structure to be Replaced
 - Existing Structure to Remain
 - ◇ Proposed Structure
 - Existing 138 kV Transmission Line to be Rebuilt
 - Proposed 138 kV Transmission Line
 - Project Area
 - Photo Location
 - △ Existing Culvert
 - ▲ Storm Drain
 - Wetland Determination Sample Point
 - Upland Drainage Feature
 - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - Approximate Waterway
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 - Field Delineated Open Water
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 - National Wetlands Inventory Feature
 - FEMA Flood Hazard Area
 - 100-year Floodplain
 - Floodway



Notes
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2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: 2019 NAIIP



A.3 FIGURE 3 – HABITAT ASSESSMENT MAP

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Figure No.

3

Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

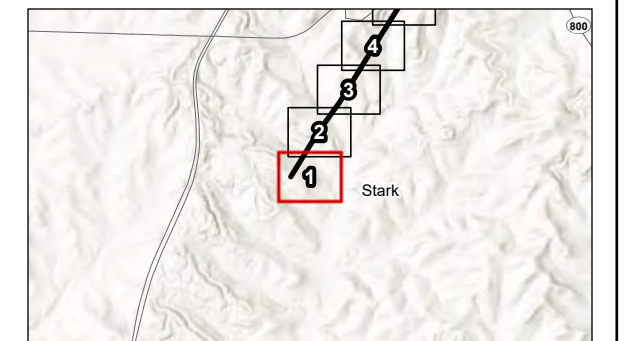
Project Location
Stark County, Ohio
Prepared by JLH on 2022-03-28
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



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(At original document size of 11x17)
1:2,400

Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ▭ Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- ⤵ Upland Drainage Feature
- ⤵ Approximate Upland Drainage Feature
- ⤵ Field Delineated Waterway
- ⤵ Approximate Waterway
- ⤵ Field Delineated Waterway Area
- ⤵ Field Delineated Open Water
- ⤵ Approximate Open Water
- ⬭ Field Delineated Emergent Wetland
- ⬭ Field Delineated Scrub-Shrub Wetland
- ⬭ Field Delineated Unconsolidated Bottom Wetland
- ⬭ Approximate Wetland
- Habitat Area**
- ▭ Agricultural Field
- ▭ Old Field
- ▭ New Field
- ▭ Pasture
- ▭ Residential Lawn
- ▭ Early Successional Deciduous Forest
- ▭ Second Growth Coniferous Forest
- ▭ Industrial Land
- ▭ Existing Railroad Grade
- ▭ Existing Gravel Drive
- ▭ Existing Paved Roadway/Surface



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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Figure No.

3

Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

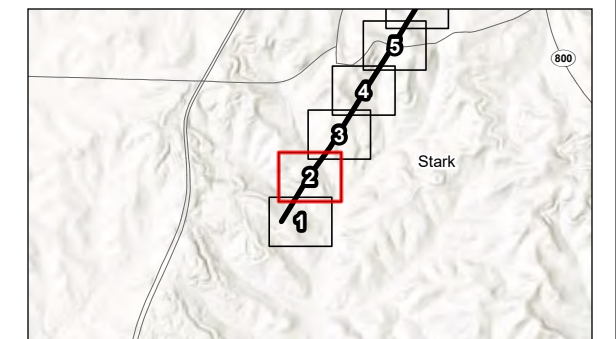
Project Location
Stark County, Ohio
Prepared by JLH on 2022-03-28
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



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(At original document size of 11x17)
1:2,400

Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ▭ Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- ⤵ Upland Drainage Feature
- ⤵ Approximate Upland Drainage Feature
- ⤵ Field Delineated Waterway
- ⤵ Approximate Waterway
- ⤵ Field Delineated Waterway Area
- ⤵ Field Delineated Open Water
- ⤵ Approximate Open Water
- ⬭ Field Delineated Emergent Wetland
- ⬭ Field Delineated Scrub-Shrub Wetland
- ⬭ Field Delineated Unconsolidated Bottom Wetland
- ⬭ Approximate Wetland
- Habitat Area**
- ▭ Agricultural Field
- ▭ Old Field
- ▭ New Field
- ▭ Pasture
- ▭ Residential Lawn
- ▭ Early Successional Deciduous Forest
- ▭ Second Growth Coniferous Forest
- ▭ Industrial Land
- ▭ Existing Railroad Grade
- ▭ Existing Gravel Drive
- ▭ Existing Paved Roadway/Surface



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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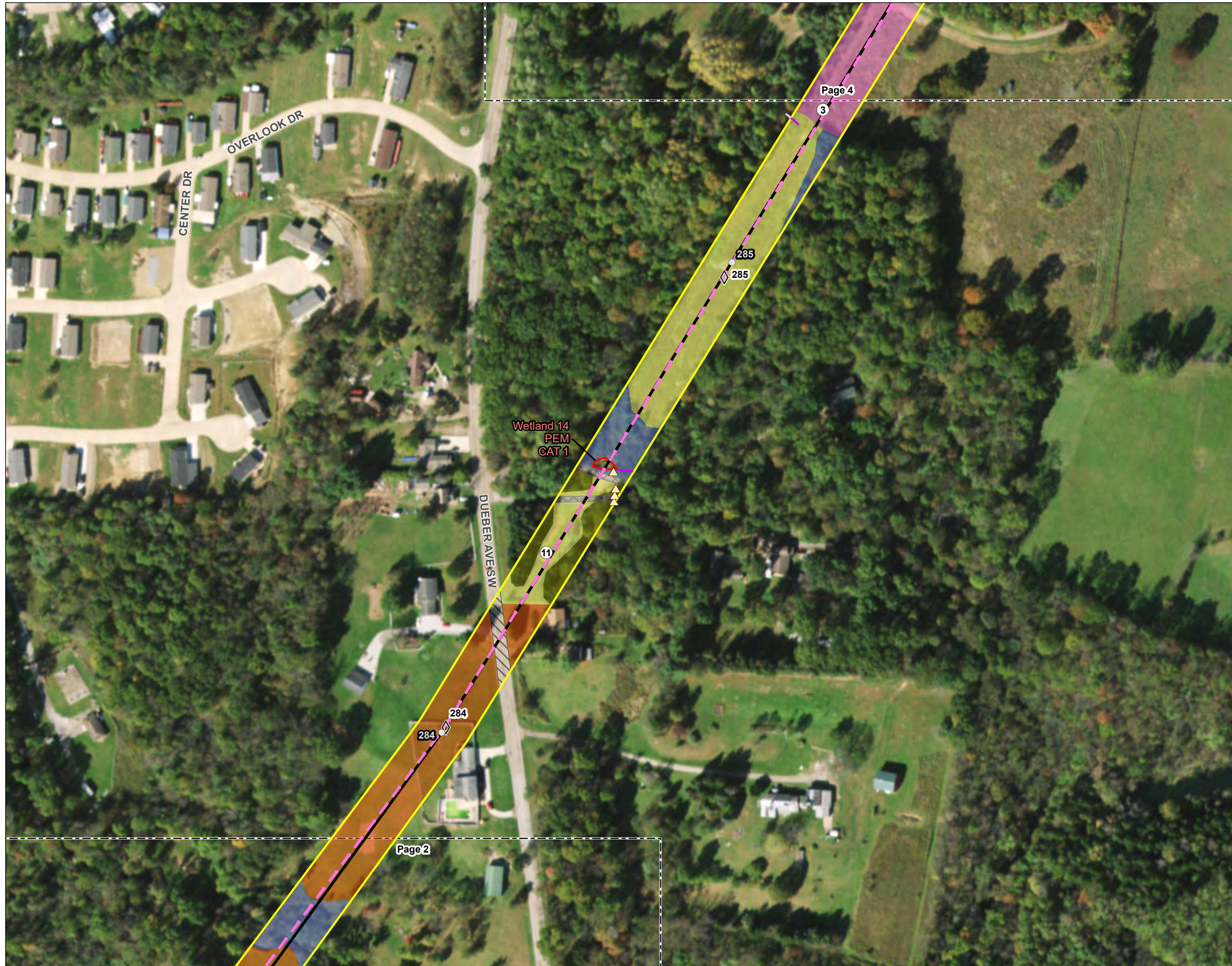


Figure No.

3

Title

Habitat Assessment Map

Client/Project: AEP Ohio Transmission Company, Inc. 193708517
 South Canton-Sunnyside
 138 kV Line Rebuild Project

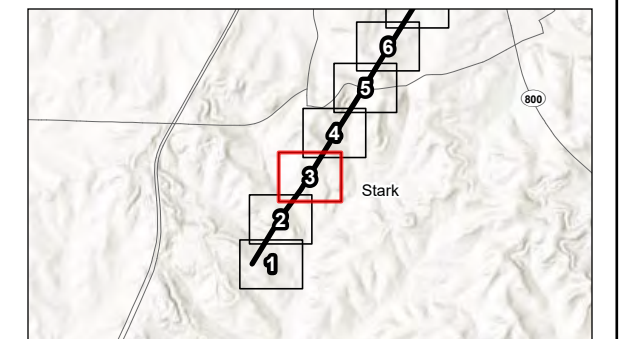
Project Location: Stark County, Ohio
 Prepared by J.L.H. on 2022-03-28
 TR by K.L.B. on 2023-03-09
 IR by A.J.K. on 2023-03-13



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Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ▭ Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- ⤴ Upland Drainage Feature
- ⤵ Approximate Upland Drainage Feature
- ⤴ Field Delineated Waterway
- ⤵ Approximate Waterway
- ⤴ Field Delineated Waterway Area
- ⤵ Field Delineated Open Water
- ⤵ Approximate Open Water
- Field Delineated Emergent Wetland
- Field Delineated Scrub-Shrub Wetland
- Field Delineated Unconsolidated Bottom Wetland
- Approximate Wetland
- Habitat Area**
- ▭ Agricultural Field
- ▭ Old Field
- ▭ New Field
- ▭ Pasture
- ▭ Residential Lawn
- ▭ Early Successional Deciduous Forest
- ▭ Second Growth Coniferous Forest
- ▭ Industrial Land
- ▭ Existing Railroad Grade
- ▭ Existing Gravel Drive
- ▭ Existing Paved Roadway/Surface



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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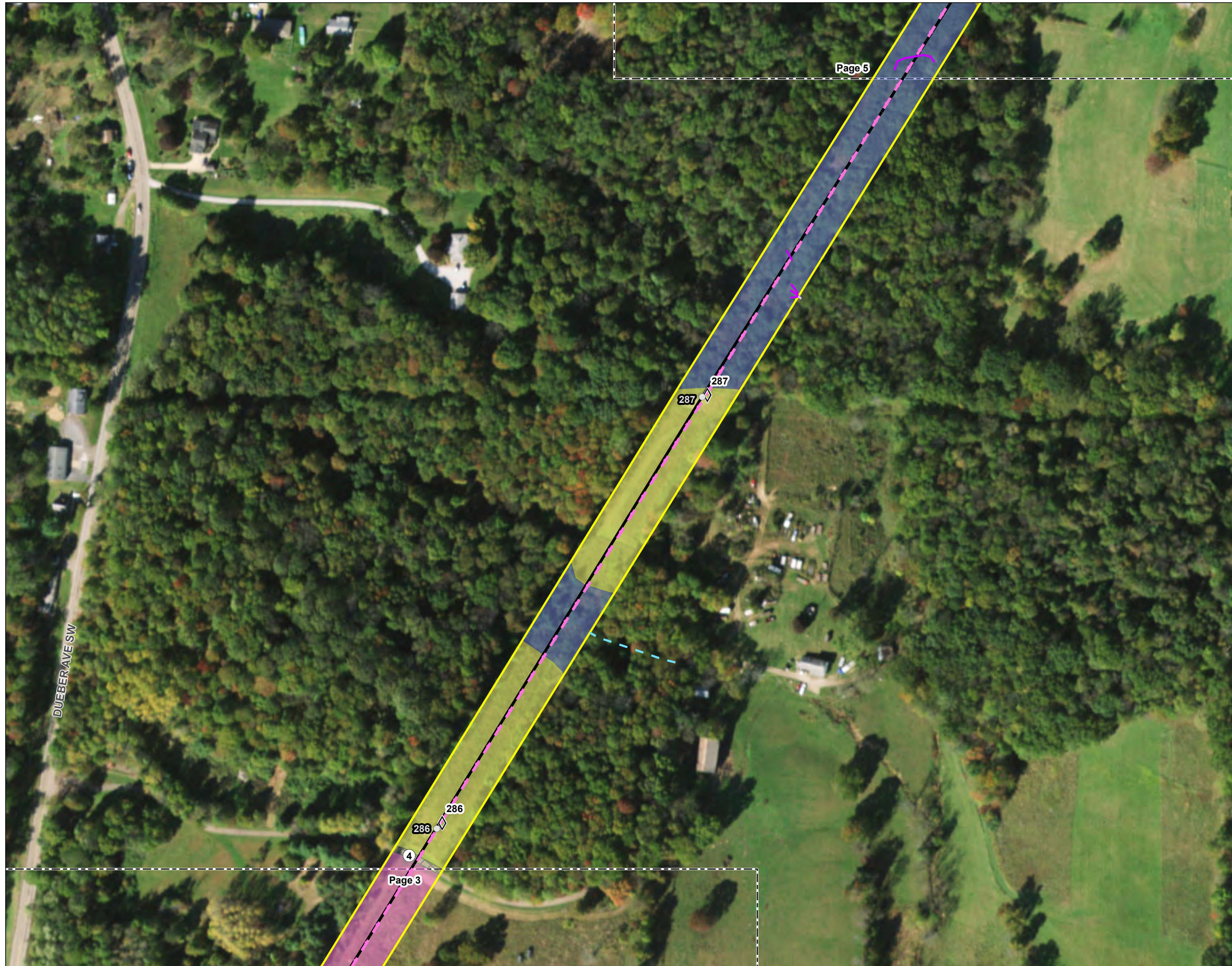


Figure No.

3

Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project

193708517

Project Location
Stark County, Ohio

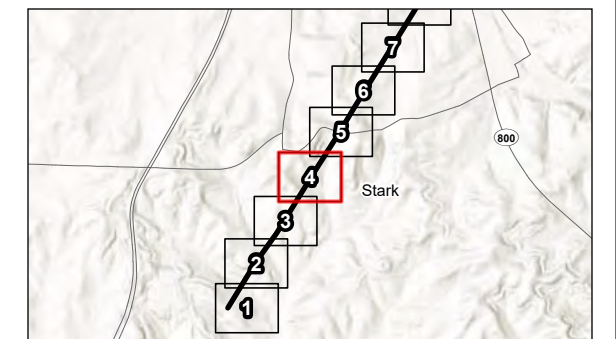
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TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



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Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ▭ Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- ⤴ Upland Drainage Feature
- ⤴ Approximate Upland Drainage Feature
- ⤴ Field Delineated Waterway
- ⤴ Approximate Waterway
- ⤴ Field Delineated Waterway Area
- ⤴ Field Delineated Open Water
- ⤴ Approximate Open Water
- ⦶ Field Delineated Emergent Wetland
- ⦶ Field Delineated Scrub-Shrub Wetland
- ⦶ Field Delineated Unconsolidated Bottom Wetland
- ⦶ Approximate Wetland
- Habitat Area**
- ▭ Agricultural Field
- ▭ Old Field
- ▭ New Field
- ▭ Pasture
- ▭ Residential Lawn
- ▭ Early Successional Deciduous Forest
- ▭ Second Growth Coniferous Forest
- ▭ Industrial Land
- ▭ Existing Railroad Grade
- ▭ Existing Gravel Drive
- ▭ Existing Paved Roadway/Surface



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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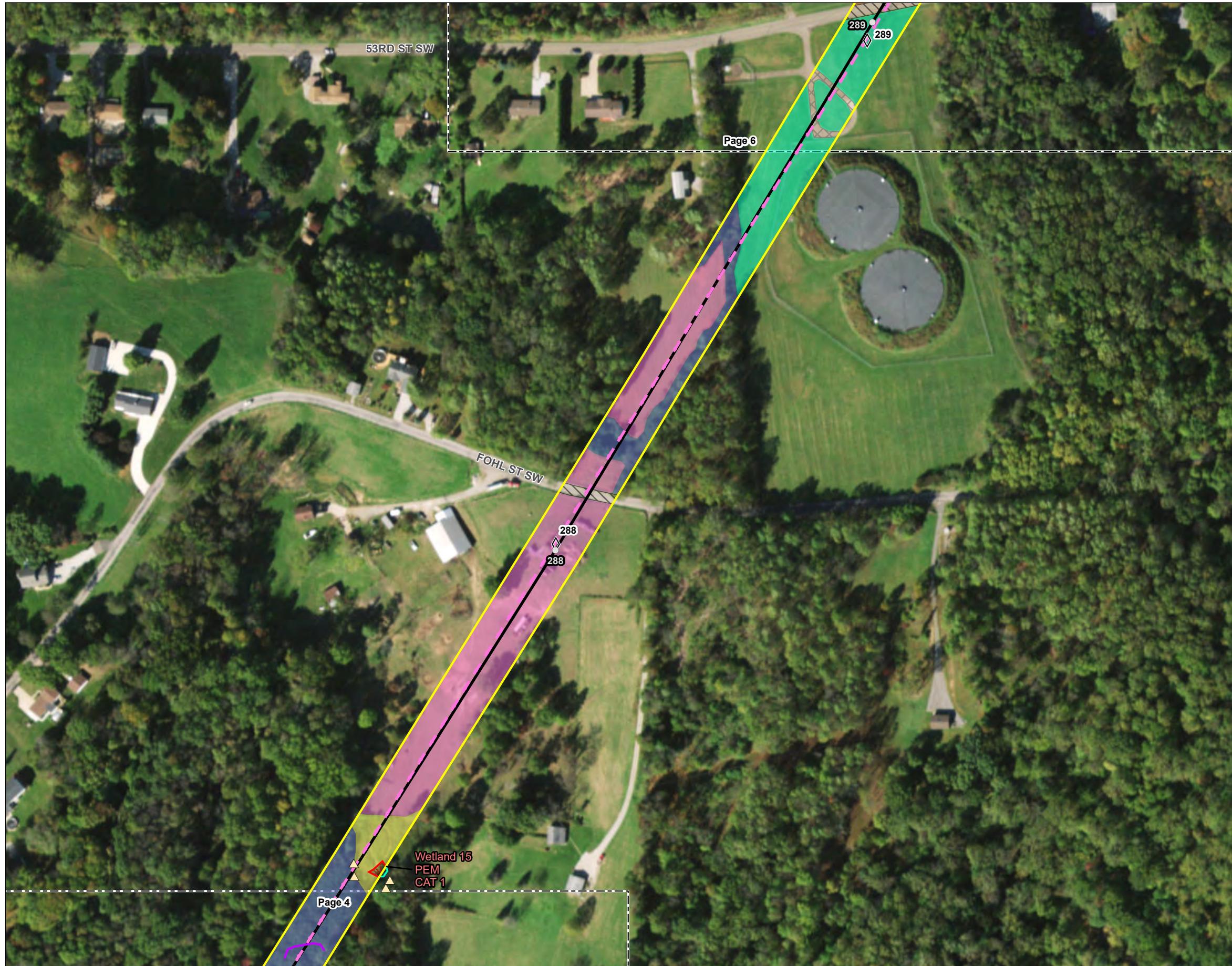


Figure No.

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Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

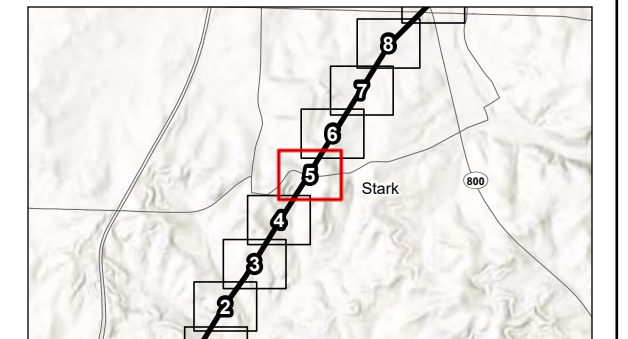
Project Location
Stark County, Ohio
Prepared by JLH on 2023-03-28
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



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(At original document size of 11x17)
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Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ▭ Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- ⤴ Upland Drainage Feature
- ⤴ Approximate Upland Drainage Feature
- ⤴ Field Delineated Waterway
- ⤴ Approximate Waterway
- ⤴ Field Delineated Waterway Area
- ⤴ Field Delineated Open Water
- ⤴ Approximate Open Water
- ⦶ Field Delineated Emergent Wetland
- ⦶ Field Delineated Scrub-Shrub Wetland
- ⦶ Field Delineated Unconsolidated Bottom Wetland
- ⦶ Approximate Wetland
- Habitat Area**
- ▭ Agricultural Field
- ▭ Old Field
- ▭ New Field
- ▭ Pasture
- ▭ Residential Lawn
- ▭ Early Successional Deciduous Forest
- ▭ Second Growth Coniferous Forest
- ▭ Industrial Land
- ▭ Existing Railroad Grade
- ▭ Existing Gravel Drive
- ▭ Existing Paved Roadway/Surface



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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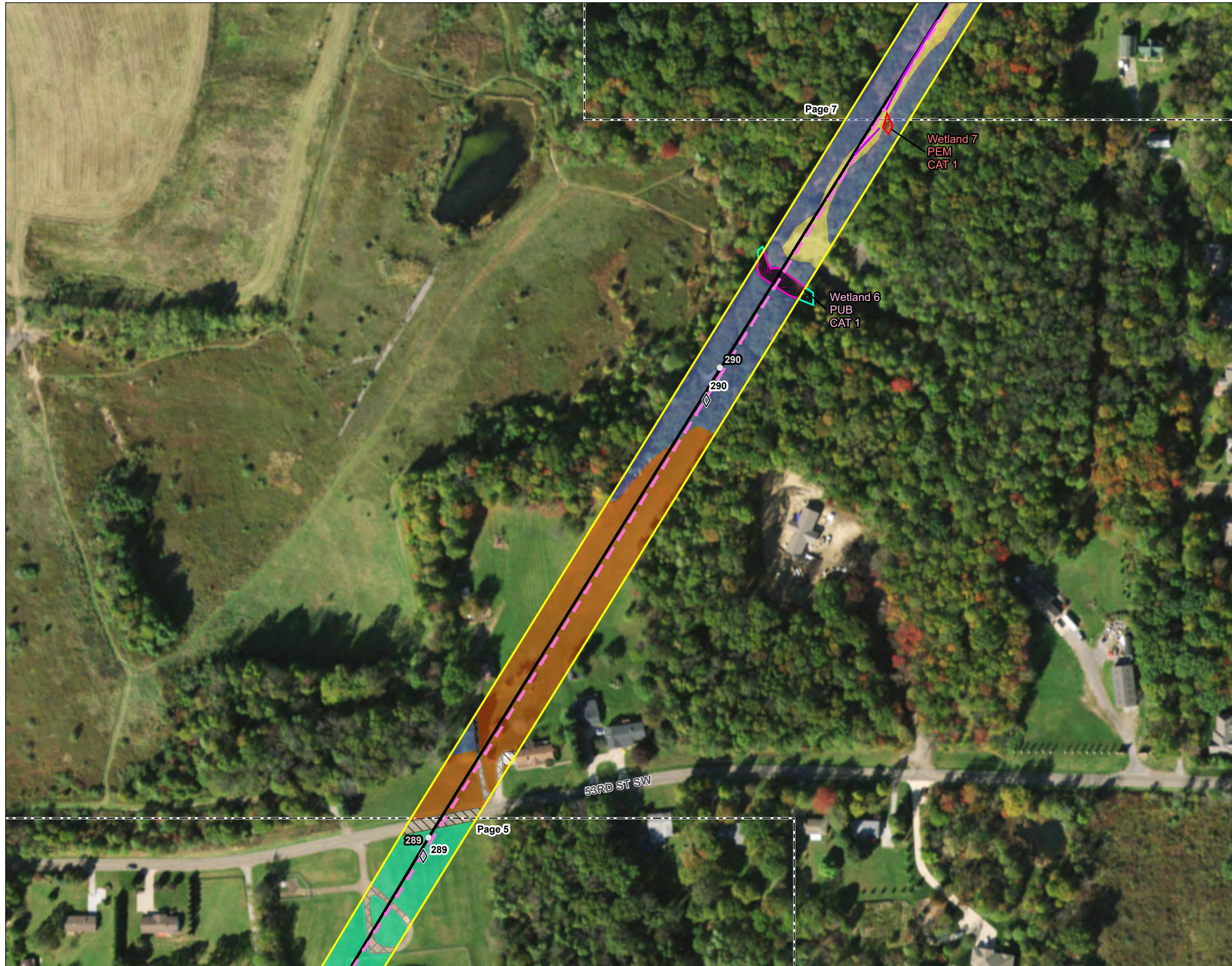


Figure No.

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Title

Habitat Assessment Map

Client/Project
 AEP Ohio Transmission Company, Inc. 193708517
 South Canton-Sunnyside
 138 kV Line Rebuild Project

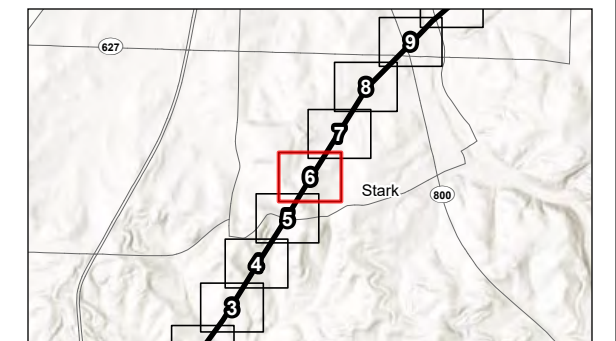
Project Location Stark County, Ohio Prepared by JLH on 2022-03-28
 TR by KLB on 2023-03-09
 IR by AJK on 2023-03-13



0 100 200 Feet
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Legend

- | | |
|---|--|
| ■ AEP Substation | Field Delineated Emergent Wetland |
| ○ Existing Structure to be Replaced | Field Delineated Scrub-Shrub Wetland |
| ● Existing Structure to Remain | Field Delineated Unconsolidated Bottom Wetland |
| ◇ Proposed Structure | Approximate Wetland |
| Existing 138 kV Transmission Line to be Rebuilt | Habitat Area |
| Proposed 138 kV Transmission Line | Agricultural Field |
| Project Area | Old Field |
| ○ Photo Location | New Field |
| △ Existing Culvert | Pasture |
| ▲ Storm Drain | Residential Lawn |
| Upland Drainage Feature | Early Successional Deciduous Forest |
| Approximate Upland Drainage Feature | Second Growth Coniferous Forest |
| Field Delineated Waterway | Industrial Land |
| Approximate Waterway | Existing Railroad Grade |
| Field Delineated Waterway Area | Existing Gravel Drive |
| Field Delineated Open Water | Existing Paved Roadway/Surface |
| Approximate Open Water | |



- Notes
- Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 - Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 - Orthophotography: 2019 NAIP



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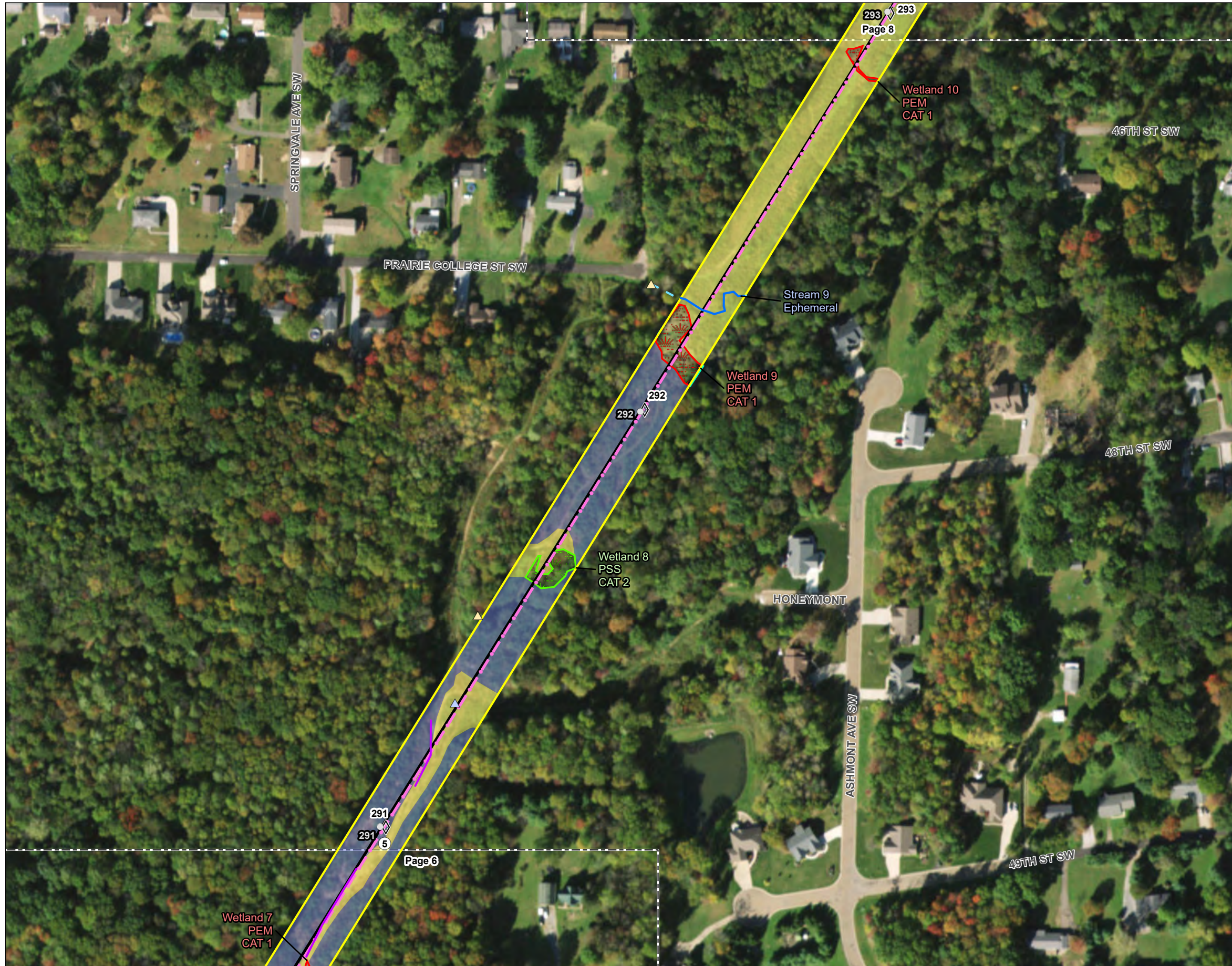


Figure No.

3

Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project

193708517

Project Location
Stark County, Ohio

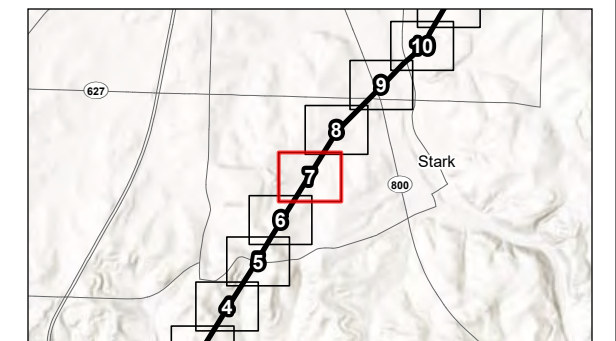
Prepared by JLH on 2022-03-28
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ▭ Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- ⤴ Upland Drainage Feature
- ⤵ Approximate Upland Drainage Feature
- ⤴ Field Delineated Waterway
- ⤵ Approximate Waterway
- ⤴ Field Delineated Waterway Area
- ⤵ Field Delineated Open Water
- ⤵ Approximate Open Water
- Field Delineated Emergent Wetland
- Field Delineated Scrub-Shrub Wetland
- Field Delineated Unconsolidated Bottom Wetland
- Approximate Wetland
- Habitat Area**
- ▭ Agricultural Field
- ▭ Old Field
- ▭ New Field
- ▭ Pasture
- ▭ Residential Lawn
- ▭ Early Successional Deciduous Forest
- ▭ Second Growth Coniferous Forest
- ▭ Industrial Land
- ▭ Existing Railroad Grade
- ▭ Existing Gravel Drive
- ▭ Existing Paved Roadway/Surface



Notes

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2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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Figure No.

3

Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project

193708517

Project Location
Stark County, Ohio

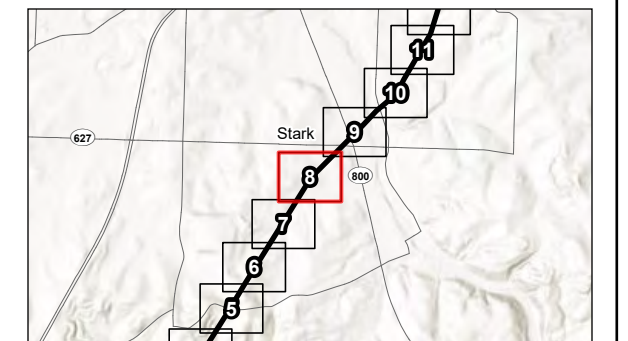
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TR by KLB on 2023-03-09
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(At original document size of 11x17)
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Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ▭ Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- ⤴ Upland Drainage Feature
- ⤵ Approximate Upland Drainage Feature
- ⤴ Field Delineated Waterway
- ⤵ Approximate Waterway
- ⤴ Field Delineated Waterway Area
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- ⤴ Approximate Open Water
- Field Delineated Emergent Wetland
- Field Delineated Scrub-Shrub Wetland
- Field Delineated Unconsolidated Bottom Wetland
- Approximate Wetland
- ▭ Habitat Area
- ▭ Agricultural Field
- ▭ Old Field
- ▭ New Field
- ▭ Pasture
- ▭ Residential Lawn
- ▭ Early Successional Deciduous Forest
- ▭ Second Growth Coniferous Forest
- ▭ Industrial Land
- ▭ Existing Railroad Grade
- ▭ Existing Gravel Drive
- ▭ Existing Paved Roadway/Surface



- Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



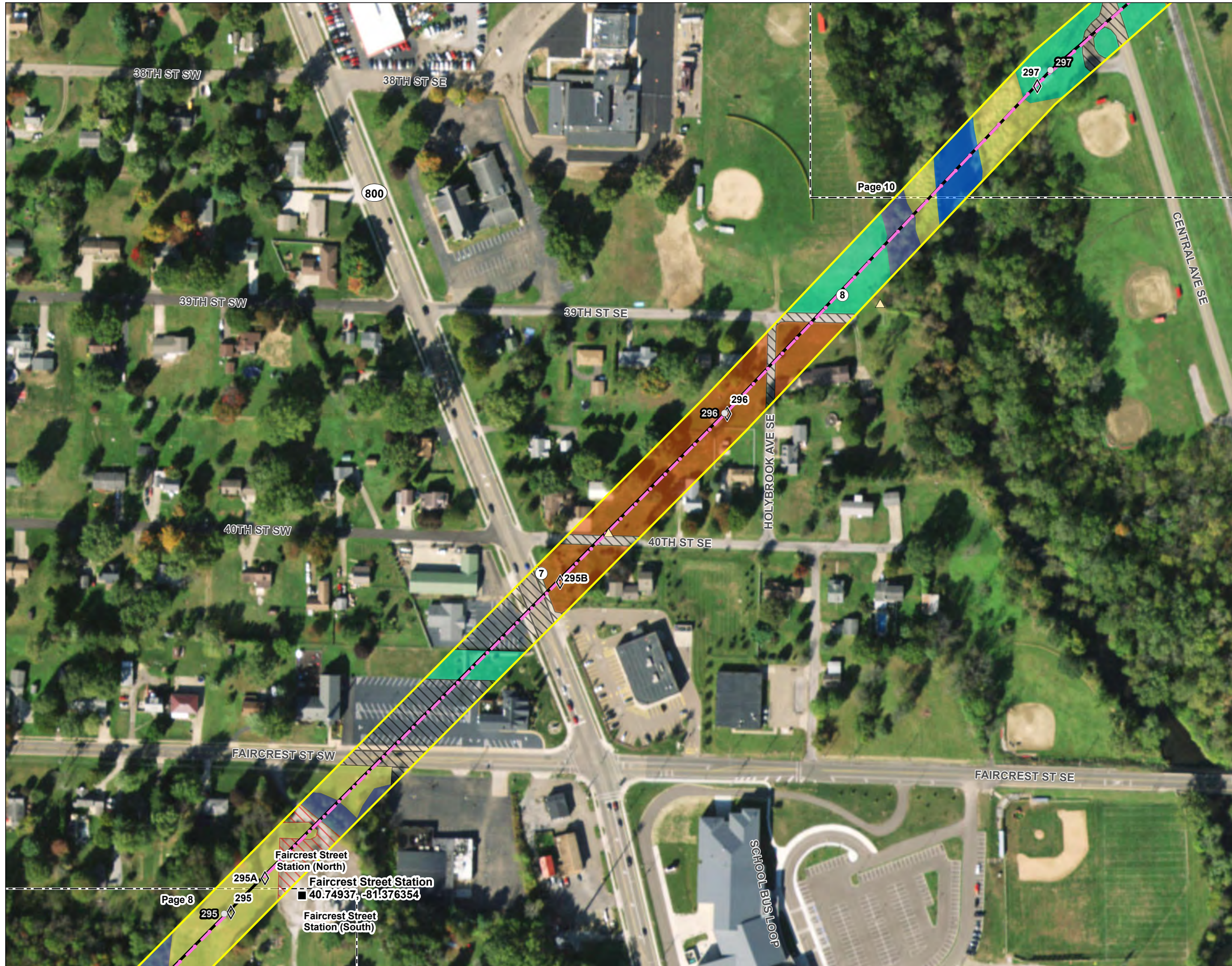


Figure No.

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Title

Habitat Assessment Map

Client/Project
 AEP Ohio Transmission Company, Inc. 193708517
 South Canton-Sunnyside
 138 kV Line Rebuild Project

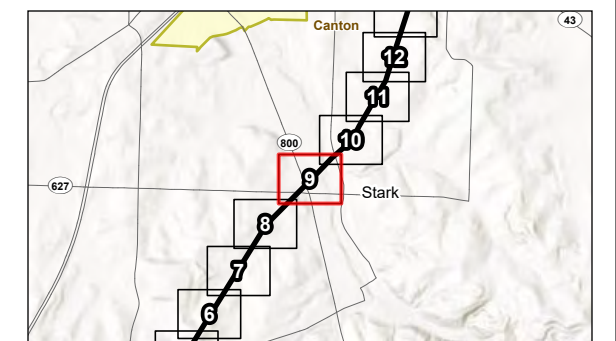
Project Location
 Stark County, Ohio
 Prepared by JLH on 2022-03-28
 TR by KLB on 2023-03-09
 IR by AJK on 2023-03-13



0 100 200 Feet
 (At original document size of 11x17)
 1:2,400

Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ▭ Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- ⤵ Upland Drainage Feature
- ⤵ Approximate Upland Drainage Feature
- ⤵ Field Delineated Waterway
- ⤵ Approximate Waterway
- ⤵ Field Delineated Waterway Area
- ⤵ Field Delineated Open Water
- ⤵ Approximate Open Water
- ⦶ Field Delineated Emergent Wetland
- ⦶ Field Delineated Scrub-Shrub Wetland
- ⦶ Field Delineated Unconsolidated Bottom Wetland
- ⦶ Approximate Wetland
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- ▭ Agricultural Field
- ▭ Old Field
- ▭ New Field
- ▭ Pasture
- ▭ Residential Lawn
- ▭ Early Successional Deciduous Forest
- ▭ Second Growth Coniferous Forest
- ▭ Industrial Land
- ▭ Existing Railroad Grade
- ▭ Existing Gravel Drive
- ▭ Existing Paved Roadway/Surface



- Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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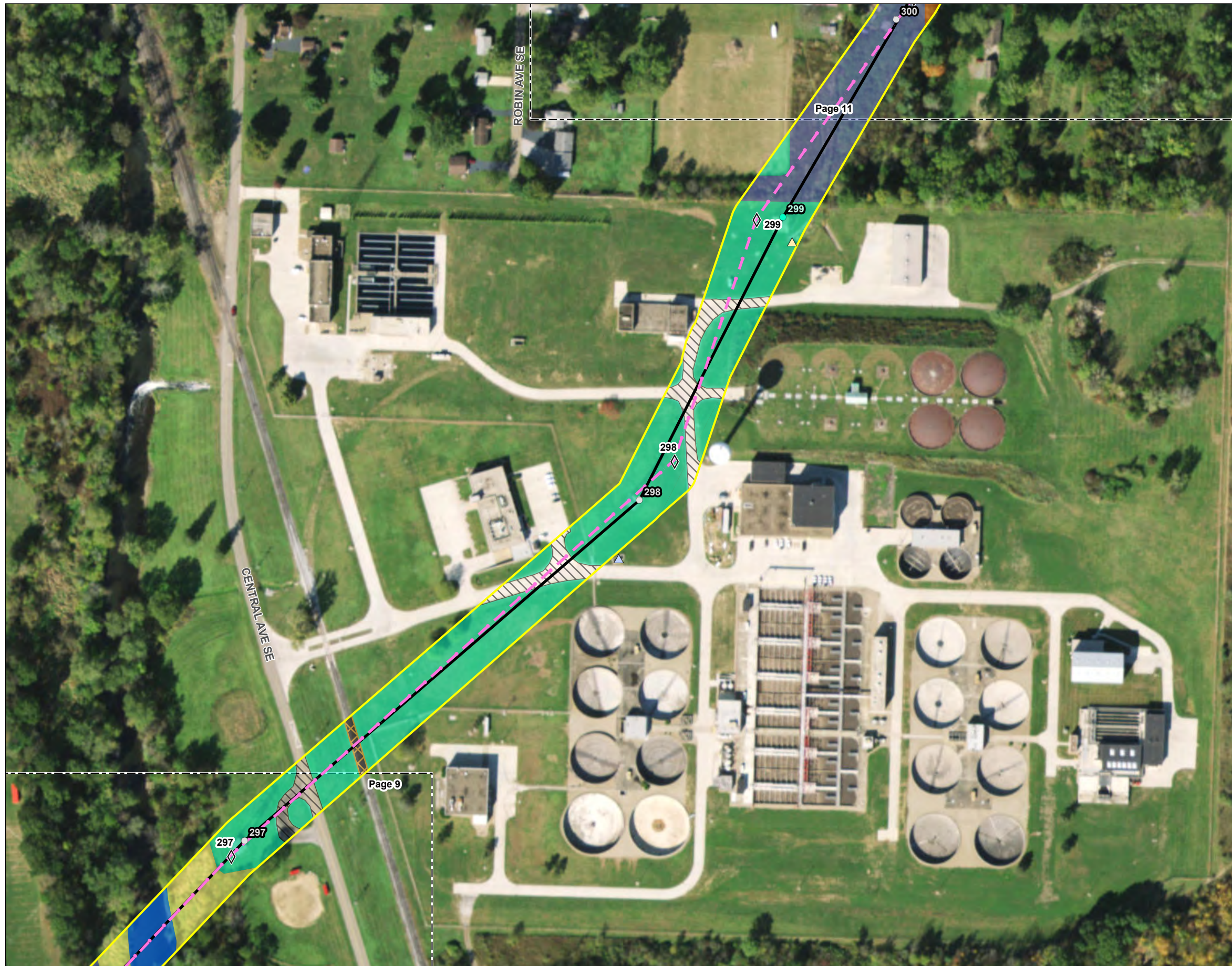
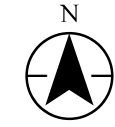


Figure No. 3

Title
Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

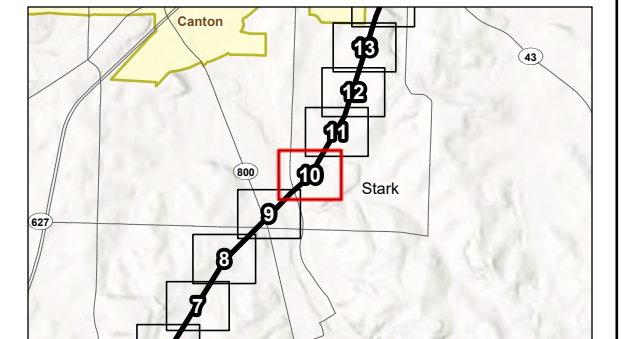
Project Location
Stark County, Ohio
Prepared by J.L.H on 2022-03-28
TR by K.L.B on 2023-03-09
IR by A.J.K on 2023-03-13



0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ▭ Project Area
- Photo Location
- △ Existing Culvert
- ▲ Storm Drain
- ⤴ Upland Drainage Feature
- ⤵ Approximate Upland Drainage Feature
- ⤴ Field Delineated Waterway
- ⤵ Approximate Waterway
- ⤴ Field Delineated Waterway Area
- ⤵ Field Delineated Open Water
- ⤵ Approximate Open Water
- ⦶ Field Delineated Emergent Wetland
- ⦶ Field Delineated Scrub-Shrub Wetland
- ⦶ Field Delineated Unconsolidated Bottom Wetland
- ⦶ Approximate Wetland
- Habitat Area**
- ▭ Agricultural Field
- ▭ Old Field
- ▭ New Field
- ▭ Pasture
- ▭ Residential Lawn
- ▭ Early Successional Deciduous Forest
- ▭ Second Growth Coniferous Forest
- ▭ Industrial Land
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- ▭ Existing Gravel Drive
- ▭ Existing Paved Roadway/Surface



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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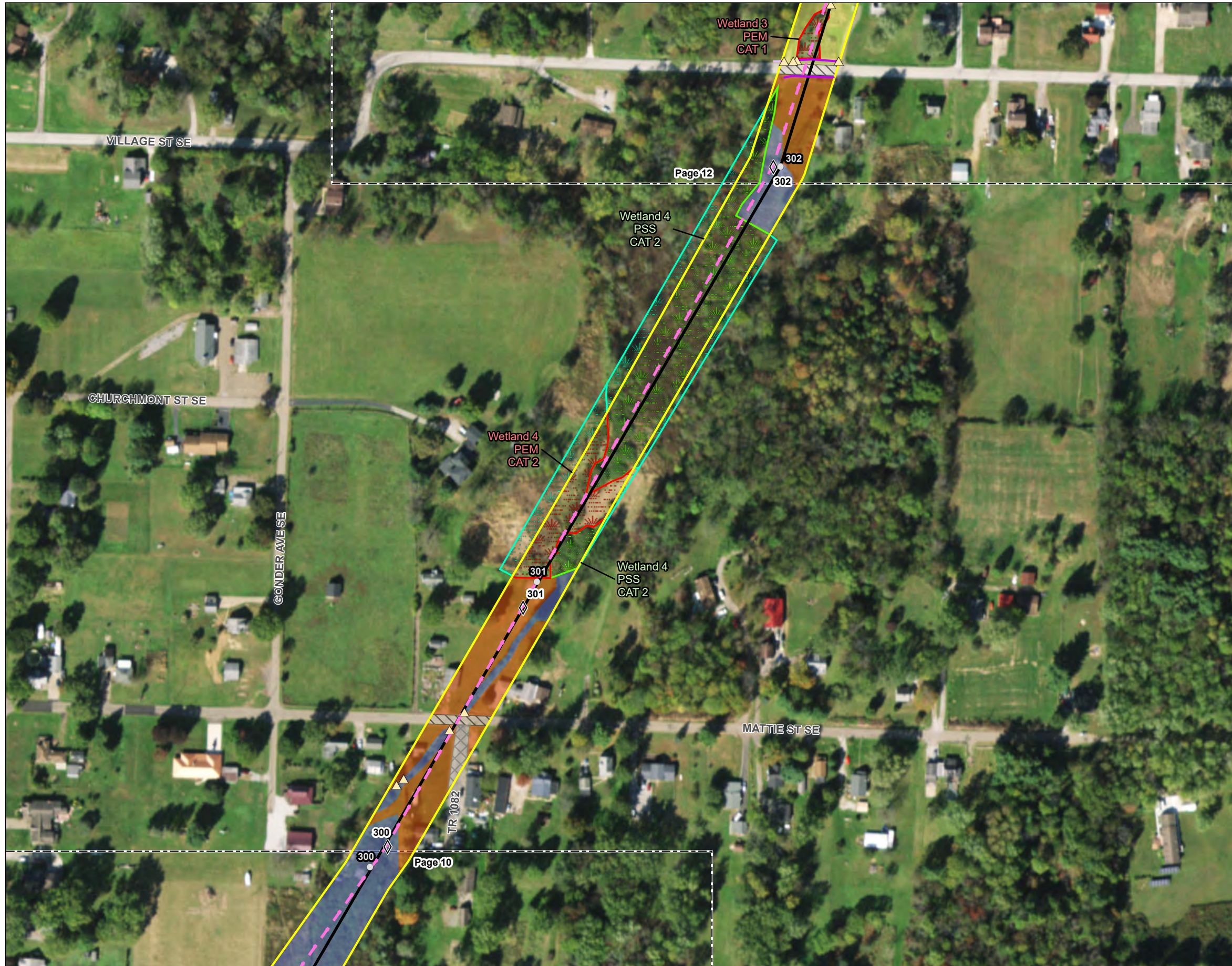


Figure No.

3

Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project

193708517

Project Location
Stark County, Ohio

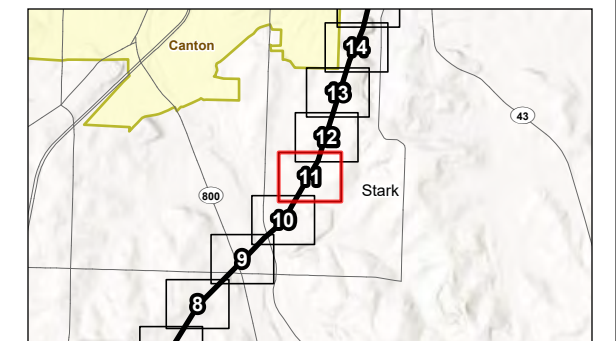
Prepared by JLH on 2023-03-28
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



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Legend

- AEP Substation
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Figure No.

3

Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

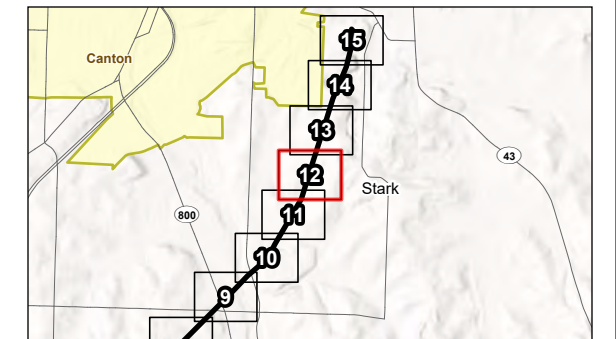
Project Location
Stark County, Ohio
Prepared by JLH on 2022-03-28
TR by KLB on 2023-03-09
IR by AJK on 2023-03-13



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(At original document size of 11x17)
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Notes
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2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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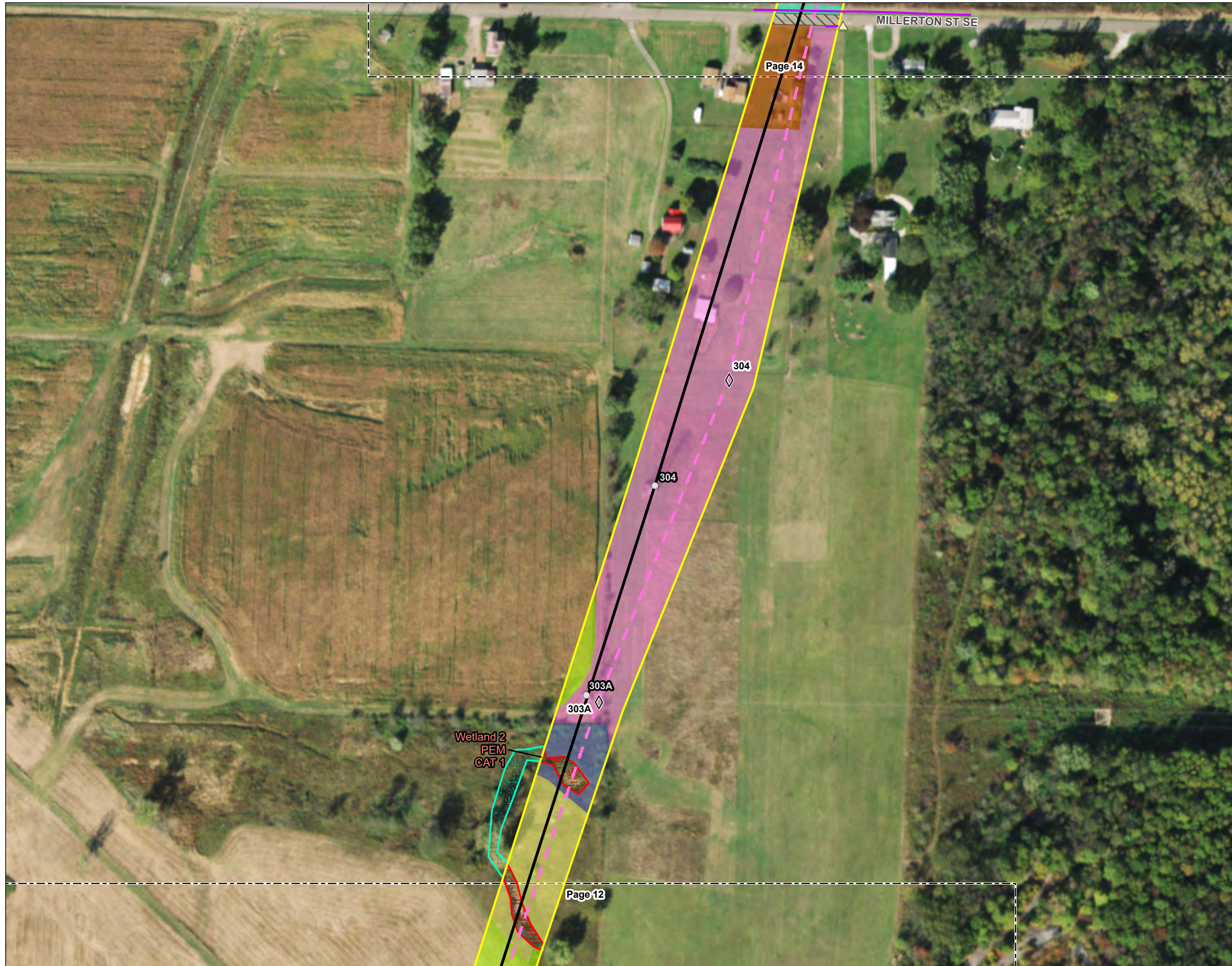


Figure No.

3

Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project

193708517

Project Location
Stark County, Ohio

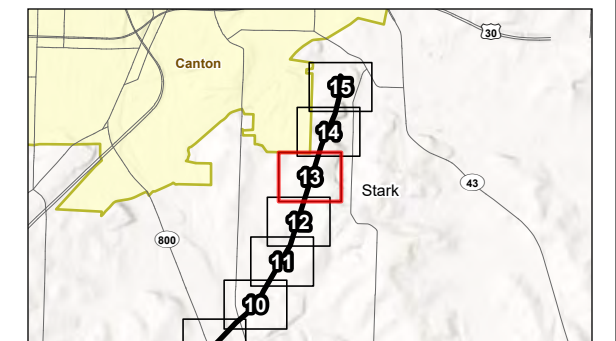
Prepared by JLH on 2023-03-28
TR by KLB on 2023-03-09
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- Notes**
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 3. Orthophotography: 2019 NAIP



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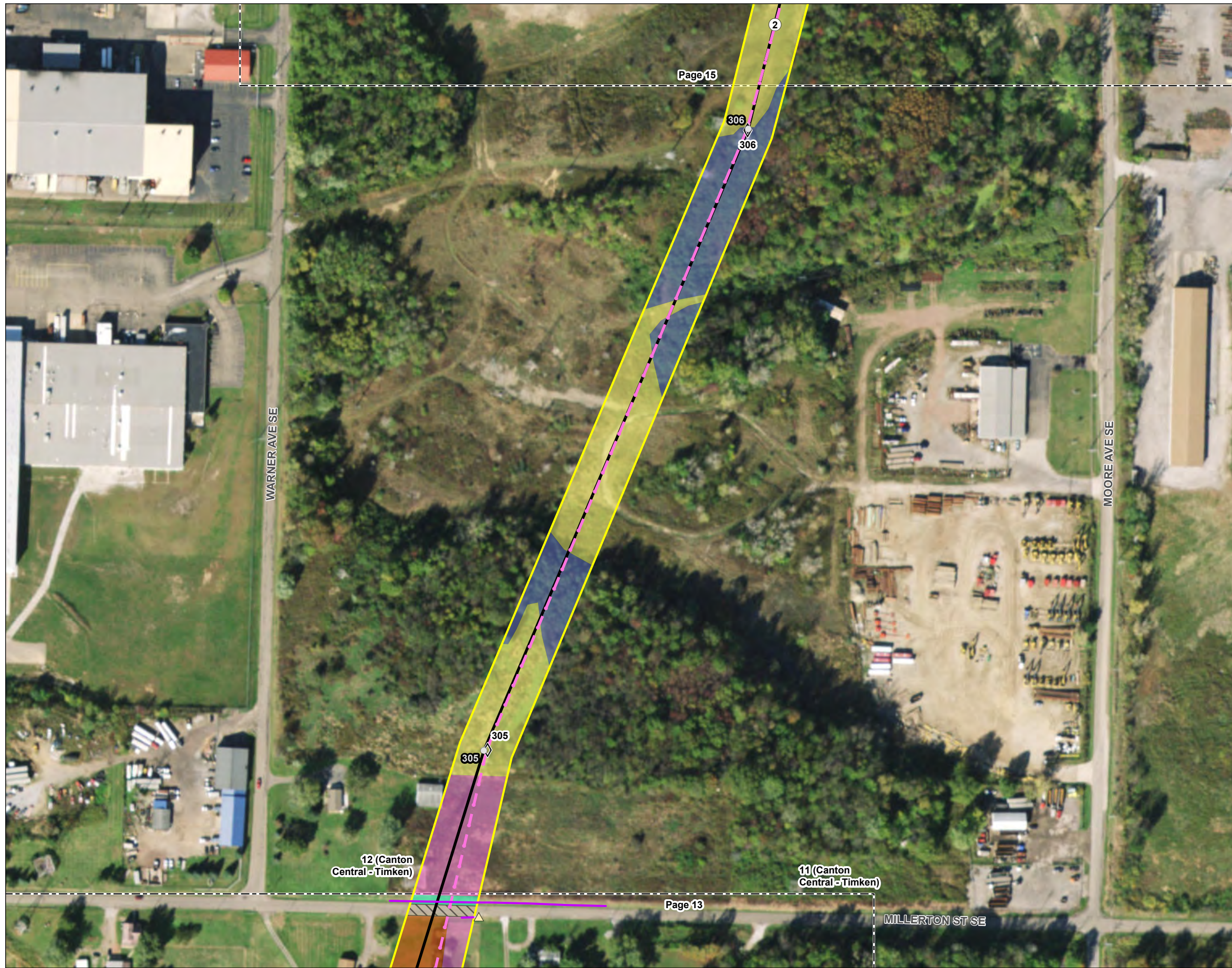


Figure No.

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Title

Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

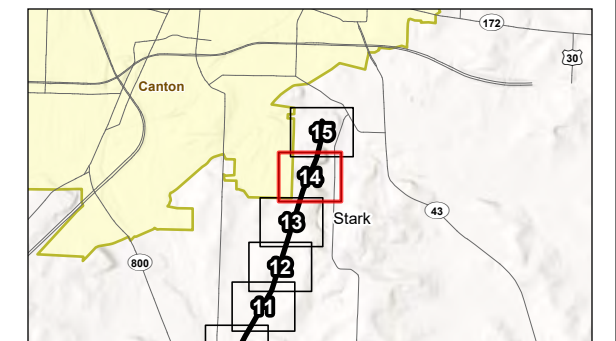
Project Location
Stark County, Ohio
Prepared by J.L.H. on 2022-03-28
TR by K.L.B. on 2023-03-09
IR by A.J.K. on 2023-03-13



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- Notes**
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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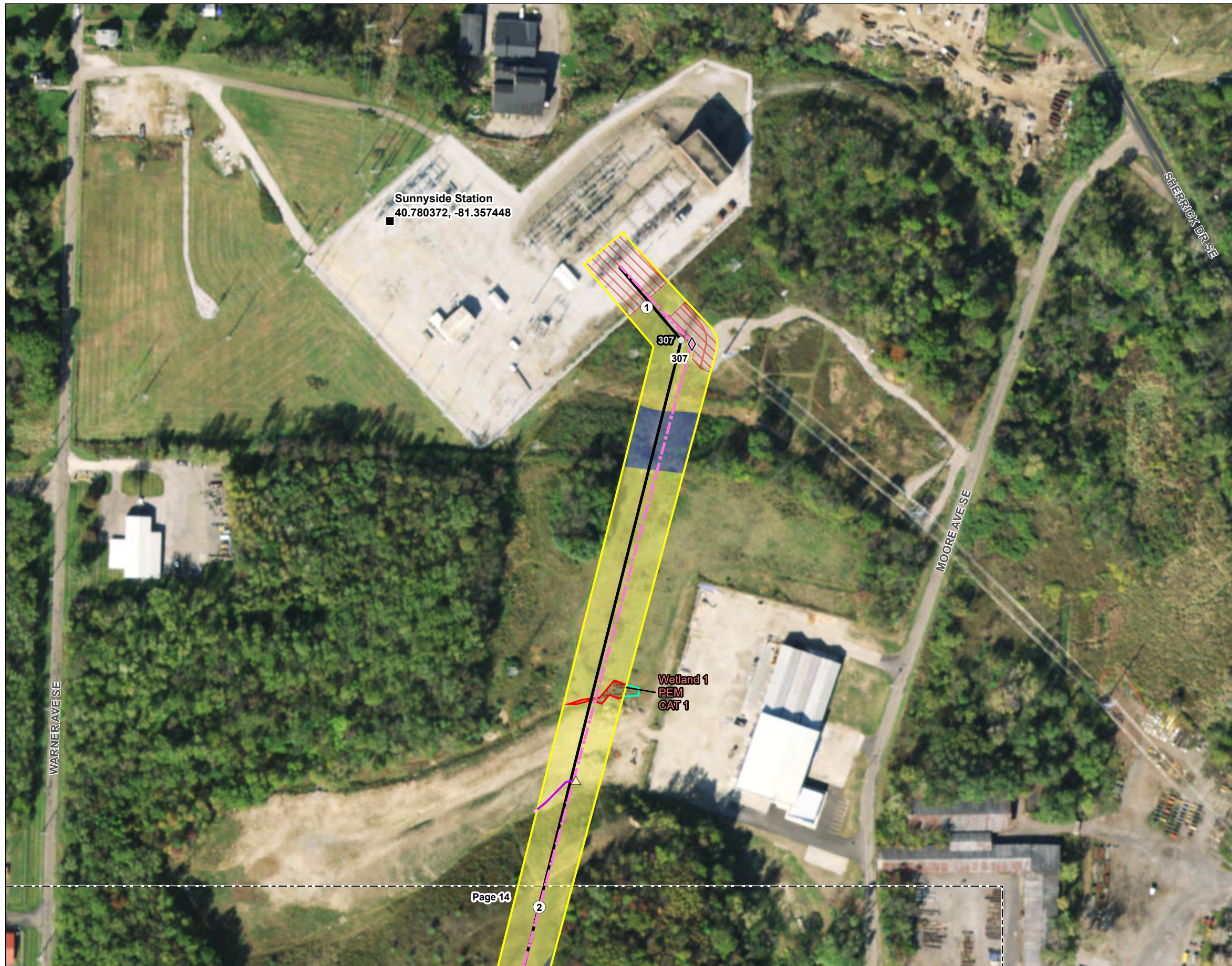


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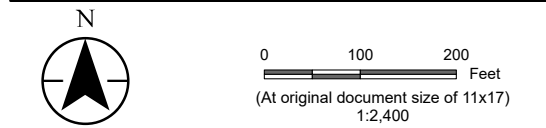
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Title

Habitat Assessment Map

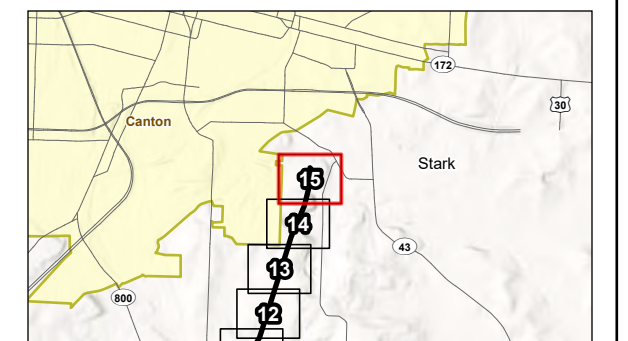
Client/Project: AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

Project Location: Stark County, Ohio
Prepared by J.L.H. on 2022-03-28
TR by K.L.B. on 2023-03-09
IR by A.J.K. on 2023-03-13



Legend

- AEP Substation
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Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



A.4 FIGURE 4 –BAT HIBERNACULA DESKTOP STUDY MAP

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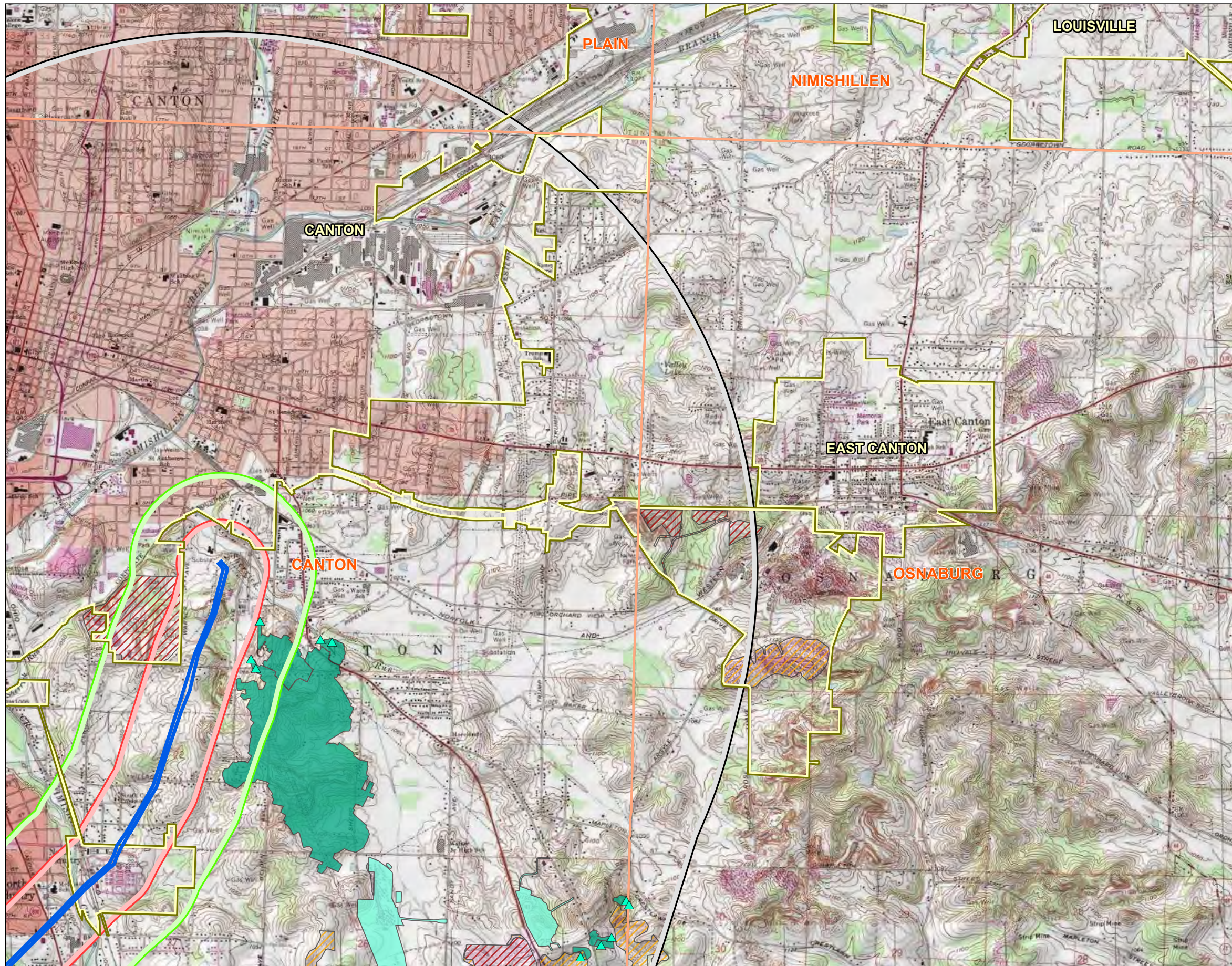
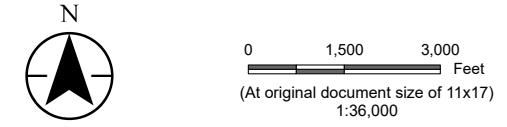


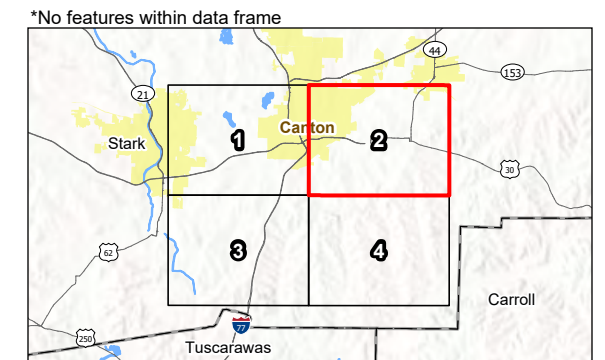
Figure No. 4
Title Bat Hibernacula Desktop Study Map

Client/Project AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

Project Location Stark County, Ohio Prepared by JLH on 2021-09-20
TR by KB on 2021-10-11
IR by DJG on 2021-10-11



- Legend
- Project Area
 - 0.25-Mile Project Area Buffer
 - 0.5-Mile Project Area Buffer
 - 3-Mile Project Area Buffer
 - Township Boundary
 - Municipal Boundary
 - Karst Feature*
 - Area of Karst Geology*
 - Abandoned Underground Mine
 - Inactive Mine*
 - Active Surface Mine
 - Abandoned Surface Mine Area
 - Abandoned Underground Mine Area
 - Inactive Surface Mine Area
 - Active Surface Mine Area
 - Surface Mine Area (Unknown Status)



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, AEP, USGS, ODNR, NADS
3. Background: USGS 7.5' Topographic Quadrangles - Canton East, OH (1985), Canton West, OH (1986), Bolivar, OH (1978), and Waynesburg, OH (1978)



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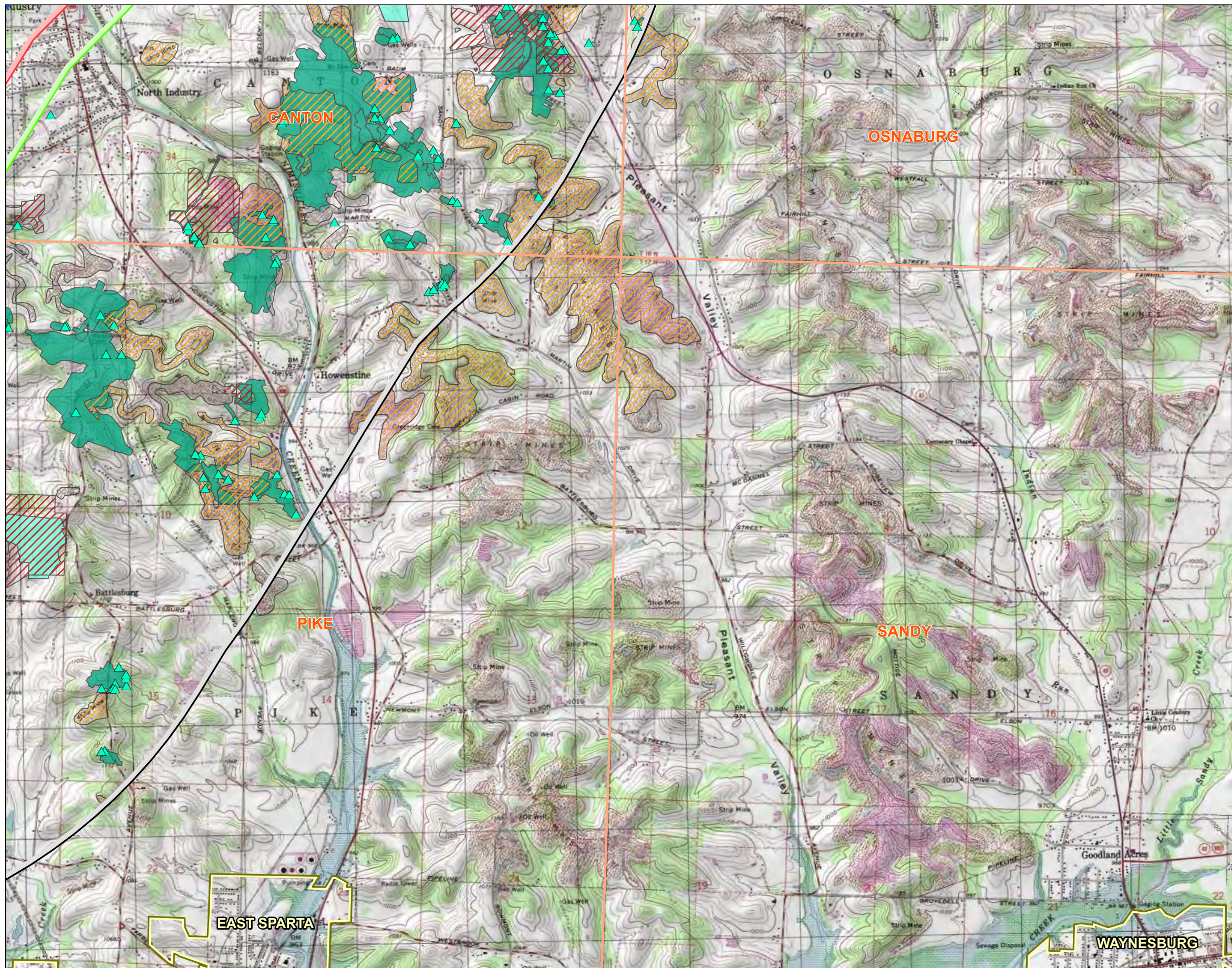
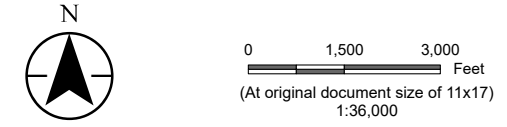
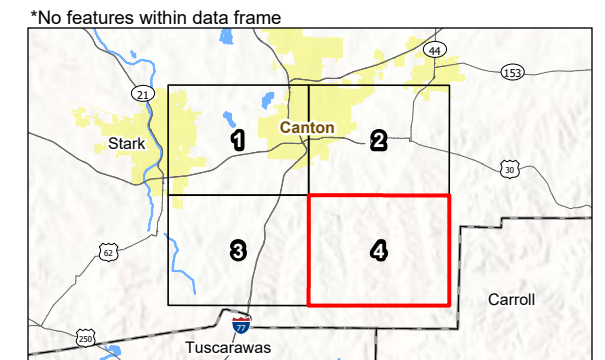


Figure No. **4**
Bat Hibernacula Desktop Study Map

Client/Project: AEP Ohio Transmission Company, Inc. 193708517
 South Canton-Sunnyside
 138 kV Line Rebuild Project
 Project Location: Stark County, Ohio
 Prepared by J.LH on 2021-09-20
 TR by KB on 2021-10-11
 IR by DJG on 2021-10-11



- Legend**
- Project Area
 - 0.25-Mile Project Area Buffer
 - 0.5-Mile Project Area Buffer
 - 3-Mile Project Area Buffer
 - Township Boundary
 - Municipal Boundary
 - Karst Feature*
 - Area of Karst Geology*
 - ▲ Abandoned Underground Mine
 - ▲ Inactive Mine*
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 - Inactive Surface Mine Area
 - Active Surface Mine Area
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Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
 2. Data Sources: Stantec, AEP, USGS, ODNR, NADS
 3. Background: USGS 7.5' Topographic Quadrangles - Canton East, OH (1985), Canton West, OH (1986), Bolivar, OH (1978), and Waynesburg, OH (1978)



Appendix B AGENCY CORRESPONDENCE



Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate

John Kessler, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6621
Fax: (614) 267-4764

September 13, 2021

Daniel Godec
Stantec Consulting Services Inc.
11687 Lebanon Road
Cincinnati, Ohio 45241

Re: 21-0791; South Canton - Sunnyside 138 kV Line Rebuild Project

Project: The proposed project involves rebuilding approximately 5.5 miles of existing 138 kV transmission line.

Location: The proposed project is located in Canton and East Sparta, Stark County, Ohio.

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

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

Shore-growing peat moss (*Sphagnum riparium*), E
Brush-tipped emerald (*Somatochlora walshii*), E
Bolivar Reservoir – Muskingum Watershed Conservancy District

The review was performed on the project area specified in the request as well as an additional one mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity. Additional comments on some of the features may be found in pertinent sections below.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federal endangered, and FT = federal threatened.

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

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

The portion of the project from Fohl Street Southwest to the southern terminus is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible.

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

The project is within the range of the long-solid (*Fusconaia maculata maculata*), a state endangered mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.

The project is within the range of the Iowa darter (*Etheostoma exile*), a state endangered fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.

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

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

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

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

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

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

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

Mike Pettegrew
Environmental Services Administrator (Acting)

From: [Ohio, FW3](#)
To: [Godec, Daniel](#)
Cc: nathan.reardon@dnr.state.oh.us; [Parsons, Kate](#)
Subject: AEP South Canton - Sunnyside 138 kV Line Rebuild, Stark County, Ohio
Date: Monday, August 30, 2021 9:09:38 AM



TAILS# 03E15000-2021-TA-2145

Dear Mr. Godec,

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

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

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥ 3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches dbh cannot be avoided, we recommend removal of any trees ≥ 3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the

Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

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

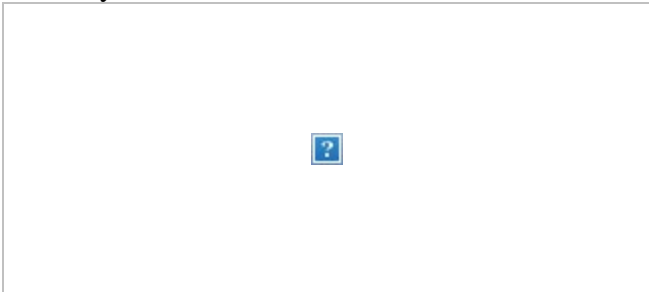
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing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

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

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

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,



Patrice M. Ashfield

Field Office Supervisor

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

Appendix C REPRESENTATIVE PHOTOGRAPHS

C.1 WETLAND AND WATERBODY PHOTOGRAPHS

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 1. View of upland (old field habitat) at wetland determination sample point SP35. Photograph taken facing north.



Photograph Location 1. View of upland (old field habitat) at wetland determination sample point SP35. Photograph taken facing east.

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 2. View of Stream 17. Photograph taken facing upstream/west.



Photograph Location 2. View of Stream 17. Photograph taken facing downstream/east.

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 2. View of substrates of Stream 17.



Photograph Location 3. View of Open Water 1. Photograph taken facing northwest.

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 4. View of Stream 16. Photograph taken facing upstream/west.



Photograph Location 4. View of Stream 16. Photograph taken facing downstream/east.

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 4. View of substrates of Stream 16.



Photograph Location 5. View of Stream 11. Photograph taken facing upstream/north.

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Stark County, Ohio



Photograph Location 5. View of Stream 11. Photograph taken facing downstream/south.



Photograph Location 5. View of substrates of Stream 11.

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Stark County, Ohio



Photograph Location 6. View of Wetland 14. Photograph taken facing north.



Photograph Location 6. View of Wetland 14. Photograph taken facing east.

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Stark County, Ohio



Photograph Location 6. View of Wetland 14. Photograph taken facing south.



Photograph Location 6. View of Wetland 14. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 6. View of soil profile at wetland determination sample point SP31 within Wetland 14.



Photograph Location 7. View of upland (early successional deciduous forest habitat) at wetland determination sample point SP32. Photograph taken facing north.

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 7. View of upland (early successional deciduous forest habitat) at wetland determination sample point SP32. Photograph taken facing east.



Photograph Location 8. View of Stream 11. Photograph taken facing upstream/north.

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Stark County, Ohio



Photograph Location 8. View of Stream 11. Photograph taken facing downstream/south.



Photograph Location 8. View of substrates of Stream 11.

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South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 9. View of Stream 12. Photograph taken facing upstream/northwest.



Photograph Location 9. View of Stream 12. Photograph taken facing downstream/southeast.

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 9. View of substrates of Stream 12.



Photograph Location 10. View of Stream 13. Photograph taken facing upstream/northwest.

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Stark County, Ohio



Photograph Location 10. View of Stream 13. Photograph taken facing downstream/southeast.



Photograph Location 10. View of substrates of Stream 13.

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 11. View of Stream 14. Photograph taken facing upstream/north.



Photograph Location 11. View of Stream 14. Photograph taken facing downstream/south.

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Stark County, Ohio



Photograph Location 11. View of substrates of Stream 14.



Photograph Location 12. View of Wetland 15. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 12. View of Wetland 15. Photograph taken facing east.



Photograph Location 12. View of Wetland 15. Photograph taken facing south.

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Stark County, Ohio



Photograph Location 12. View of Wetland 15. Photograph taken facing west.



Photograph Location 12. View of soil profile at wetland determination sample point SP33 within Wetland 15.

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Stark County, Ohio



Photograph Location 13. View of upland (old field habitat) at wetland determination sample point SP34. Photograph taken facing north.



Photograph Location 13. View of upland (old field habitat) at wetland determination sample point SP34. Photograph taken facing south.

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South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 14. View of Stream 15 (Beal Run). Photograph taken facing upstream/west.



Photograph Location 14. View of Stream 15 (Beal Run). Photograph taken facing downstream/east.

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Stark County, Ohio



Photograph Location 14. View of substrates of Stream 15 (Beal Run).



Photograph Location 15. View of Wetland 6. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 15. View of Wetland 6. Photograph taken facing east.



Photograph Location 15. View of Wetland 6. Photograph taken facing south.

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Stark County, Ohio



Photograph Location 15. View of Wetland 6. Photograph taken facing west.



Photograph Location 15. View of soil profile at wetland determination sample point SP15 within Wetland 6.

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Stark County, Ohio



Photograph Location 16. View of upland (old field habitat) at wetland determination sample point SP16. Photograph taken facing north.



Photograph Location 16. View of upland (old field habitat) at wetland determination sample point SP16. Photograph taken facing east.

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South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 17. View of Wetland 7. Photograph taken facing north.



Photograph Location 17. View of Wetland 7. Photograph taken facing east.

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South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 17. View of Wetland 7. Photograph taken facing south.



Photograph Location 17. View of Wetland 7. Photograph taken facing west.

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South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 17. View of soil profile of wetland determination sample point SP17 within Wetland 7.



Photograph Location 18. View of upland (old field/early successional deciduous forest habitat) at wetland determination sample point SP18. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 18. View of upland (old field/early successional deciduous forest habitat) at wetland determination sample point SP18. Photograph taken facing west.



Photograph Location 19. View of Stream 8. Photograph taken facing upstream/southwest.

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Stark County, Ohio



Photograph Location 19. View of Stream 8. Photograph taken facing downstream/northeast.



Photograph Location 19. View of substrates of Stream 8.

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Stark County, Ohio



Photograph Location 20. View of Wetland 8. Photograph taken facing north.



Photograph Location 20. View of Wetland 8. Photograph taken facing east.

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Stark County, Ohio



Photograph Location 20. View of Wetland 8. Photograph taken facing south.



Photograph Location 20. View of Wetland 8. Photograph taken facing west.

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Stark County, Ohio



Photograph Location 20. View of soil profile at wetland determination sample point SP19 within Wetland 8.



Photograph Location 21. View of upland (old field habitat) wetland determination sample point SP20. Photograph taken facing west.

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Stark County, Ohio



Photograph Location 21. View of upland (old field habitat) wetland determination sample point SP20. Photograph taken facing north.



Photograph Location 22. View of Wetland 9. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 22. View of Wetland 9. Photograph taken facing east.



Photograph Location 22. View of Wetland 9. Photograph taken facing south.

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Stark County, Ohio



Photograph Location 22. View of Wetland 9. Photograph taken facing west.



Photograph Location 22. View of soil profile at wetland determination sample point SP21 within Wetland 9.

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Stark County, Ohio



Photograph Location 23. View of upland (early successional deciduous forest habitat) at wetland determination sample point SP22. Photograph taken facing west.



Photograph Location 23. View of upland (early successional deciduous forest habitat) at wetland determination sample point SP22. Photograph taken facing south.

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Photograph Location 24. View of Stream 9. Photograph taken facing upstream/northwest.



Photograph Location 24. View of Stream 9. Photograph taken facing downstream/southeast.

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Stark County, Ohio



Photograph Location 24. View of substrates of Stream 9.



Photograph Location 25. View of Wetland 10. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 25. View of Wetland 10. Photograph taken facing east.



Photograph Location 25. View of Wetland 10. Photograph taken facing south.

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Stark County, Ohio



Photograph Location 25. View of Wetland 10. Photograph taken facing west.



Photograph Location 25. View of soil profile at wetland determination sample point SP23 within Wetland 10.

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Stark County, Ohio



Photograph Location 26. View of upland (old field habitat) at wetland determination sample point SP 24. Photograph taken facing west.



Photograph Location 26. View of upland (old field habitat) at wetland determination sample point SP24. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 27. View of Wetland 11. Photograph taken facing north.



Photograph Location 27. View of Wetland 11. Photograph taken facing east.

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Photograph Location 27. View of Wetland 11. Photograph taken facing south.



Photograph Location 27. View of Wetland 11. Photograph taken facing west.

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Stark County, Ohio



Photograph Location 27. View of soil profile at wetland determination sample point SP26 within Wetland 11.



Photograph Location 28. View of upland (old field habitat) at wetland determination sample point SP25. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 28. View of upland (old field habitat) at wetland determination sample point SP25. Photograph taken facing west.



Photograph Location 29. View of Wetland 12. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 29. View of Wetland 12. Photograph taken facing east.



Photograph Location 29. View of Wetland 12. Photograph taken facing south.

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Stark County, Ohio



Photograph Location 29. View of Wetland 12. Photograph taken facing west.



Photograph Location 29. View of soil profile at wetland determination sample point SP27 within Wetland 12.

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Stark County, Ohio



Photograph Location 30. View of upland (early successional deciduous forest habitat) at wetland determination sample point SP28. Photograph taken facing east.



Photograph Location 30. View of upland (early successional deciduous forest habitat) at wetland determination sample point SP28. Photograph taken facing north.

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Photograph Location 31. View of Stream 10. Photograph taken facing upstream/north.



Photograph Location 31. View of Stream 10. Photograph taken facing downstream/south.

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Photograph Location 31. View of substrates of Stream 10.



Photograph Location 32. View of Wetland 13. Photograph taken facing north.

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Photograph Location 32. View of Wetland 13. Photograph taken facing east.



Photograph Location 32. View of Wetland 13. Photograph taken facing south.

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Photograph Location 32. View of Wetland 13. Photograph taken facing west.



Photograph Location 32. View of soil profile at wetland determination sample point SP29 within Wetland 13.

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Stark County, Ohio



Photograph Location 33. View of upland (early successional deciduous forest habitat) at wetland determination sample point SP30. Photograph taken facing north.



Photograph Location 33. View of upland (early successional deciduous forest habitat) at wetland determination sample point SP30. Photograph taken facing south.

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Photograph Location 34. View of Stream 6. Photograph taken facing upstream/north.



Photograph Location 34. View of Stream 6. Photograph taken facing downstream/south.

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Stark County, Ohio



Photograph Location 34. View of substrates of Stream 6.



Photograph Location 35. View of palustrine emergent wetland (PEM) portion of Wetland 5.
Photograph taken facing north.

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South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 35. View of PEM portion of Wetland 5. Photograph taken facing east.



Photograph Location 35. View of PEM portion of Wetland 5. Photograph taken facing south.

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Stark County, Ohio



Photograph Location 35. View of PEM portion of Wetland 5. Photograph taken facing west.



Photograph Location 35. View of soil profile at PEM wetland determination sample point SP12 within Wetland 5.

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Stark County, Ohio



Photograph Location 36. View of palustrine scrub-shrub (PSS) portion of Wetland 5. Photograph taken facing north.



Photograph Location 36. View of PSS portion of Wetland 5. Photograph taken facing east.

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Photograph Location 36. View of PSS portion of Wetland 5. Photograph taken facing south.



Photograph Location 36. View of PSS portion of Wetland 5. Photograph taken facing west.

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Stark County, Ohio



Photograph Location 36. View of soil profile at PSS wetland determination sample point SP14 within Wetland 5.



Photograph Location 37. View of upland (early successional deciduous forest habitat) at wetland determination sample point SP13. Photograph taken facing north.

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Photograph Location 37. View of upland (early successional deciduous forest habitat) at wetland determination sample point SP13. Photograph taken facing south.



Photograph Location 38. View of Stream 6. Photograph taken facing upstream/north.

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Photograph Location 38. View of Stream 6. Photograph taken facing downstream/south.



Photograph Location 38. View of substrates of Stream 6.

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Photograph Location 39. View of upland (old field habitat) at wetland determination sample point SP01. Photograph taken facing north.



Photograph Location 39. View of upland (old field habitat) at wetland determination sample point SP01. Photograph taken facing south.

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Photograph Location 40. View of Stream 2. Photograph taken facing upstream/northwest.



Photograph Location 40. View of Stream 2. Photograph taken facing downstream/east.

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Photograph Location 40. View of substrates of Stream 2.



Photograph Location 41. View of Stream 1 (Nimishillen Creek). Photograph taken facing upstream/north.

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Photograph Location 41. View of Stream 1 (Nimishillen Creek). Photograph taken facing downstream/south.



Photograph Location 41. View of substrates of Stream 1 (Nimishillen Creek).

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Stark County, Ohio



Photograph Location 42. View of upland (old field habitat) at wetland determination sample point SP02. Photograph taken facing north.



Photograph Location 42. View of upland (old field habitat) at wetland determination sample point SP02. Photograph taken facing south.

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Stark County, Ohio



Photograph Location 43. View of downstream portion of Stream 5. Photograph taken facing upstream/northeast.



Photograph Location 43. View of downstream portion of Stream 5. Photograph taken facing downstream/southwest.

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Stark County, Ohio



Photograph Location 43. View of substrates of downstream portion of Stream 5.



Photograph Location 44. View of downstream portion of Stream 5. Photograph taken facing upstream/north.

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Stark County, Ohio



Photograph Location 44. View of downstream portion of Stream 5. Photograph taken facing downstream/south.



Photograph Location 44. View of substrates of downstream portion of Stream 5.

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Stark County, Ohio



Photograph Location 45. View of upstream portion Stream 5. Photograph taken facing upstream/north.



Photograph Location 45. View of upstream portion of Stream 5. Photograph taken facing downstream/south.

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Stark County, Ohio



Photograph Location 45. View of substrates of upstream portion of Stream 5.



Photograph Location 46. View of PEM wetland determination sample point SP11 within Wetland 4. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 46. View of PEM wetland determination sample point SP11 within Wetland 4. Photograph taken facing east.



Photograph Location 46. View of PEM wetland determination sample point SP11 within Wetland 4. Photograph taken facing south.

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Photograph Location 46. View of PEM wetland determination sample point SP11 within Wetland 4. Photograph taken facing west.



Photograph Location 46. View of soil profile at PEM wetland determination sample point SP11 within Wetland 4.

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Stark County, Ohio



Photograph Location 47. View of upstream portion of Stream 5. Photograph taken facing upstream/north.



Photograph Location 47. View of upstream portion of Stream 5. Photograph taken facing downstream/south.

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Stark County, Ohio



Photograph Location 47. View of substrates of upstream portion of Stream 5.



Photograph Location 48. View of PSS wetland determination sample point SP09 within Wetland 4. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 48. View of PSS wetland determination sample point SP09 within Wetland 4. Photograph taken facing east.



Photograph Location 48. View of PSS wetland determination sample point SP09 within Wetland 4. Photograph taken facing south.

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Stark County, Ohio



Photograph Location 48. View of PSS wetland determination sample point SP09 within Wetland 4. Photograph taken facing west.



Photograph Location 48. View of soil profile at PSS wetland determination sample point SP09 within Wetland 4.

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Stark County, Ohio



Photograph Location 49. View of upland (old field habitat) at wetland determination sample point SP10. Photograph taken facing west.



Photograph Location 49. View of upland (old field habitat) at wetland determination sample point SP10. Photograph taken facing east.

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Stark County, Ohio



Photograph Location 50. View of Wetland 3. Photograph taken facing north.



Photograph Location 50. View of Wetland 3. Photograph taken facing east.

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Stark County, Ohio



Photograph Location 50. View of Wetland 3. Photograph taken facing south.



Photograph Location 50. View of Wetland 3. Photograph taken facing west.

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Stark County, Ohio



Photograph Location 50. View of soil profile at wetland determination sample point SP07 within Wetland 3.



Photograph Location 51. View of upland (old field habitat) at wetland determination sample point SP08. Photograph taken facing north.

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Stark County, Ohio



Photograph Location 51. View of upland (old field habitat) at wetland determination sample point SP08. Photograph taken facing west.



Photograph Location 52. View of Stream 4. Photograph taken facing upstream/northeast.

AEP Ohio Transmission Company, Inc.
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Stark County, Ohio



Photograph Location 52. View of Stream 4. Photograph taken facing downstream/southwest.



Photograph Location 52. View of substrates of Stream 4.

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 53. View of Wetland 2. Photograph taken facing north.



Photograph Location 53. View of Wetland 2. Photograph taken facing east.

AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 53. View of Wetland 2. Photograph taken facing south.



Photograph Location 53. View of Wetland 2. Photograph taken facing west.

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Stark County, Ohio



Photograph Location 53. View of soil profile at wetland determination sample point SP05 within Wetland 2.



Photograph Location 54. View of upland (old field habitat) at wetland determination sample point SP06. Photograph taken facing south.

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Stark County, Ohio



Photograph Location 54. View of upland (old field habitat) at wetland determination sample point SP06. Photograph taken facing west.



Photograph Location 55. View of Stream 3. Photograph taken facing upstream/northwest.

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Stark County, Ohio



Photograph Location 55. View of Stream 3. Photograph taken facing downstream/southeast.



Photograph Location 55. View of substrates of Stream 3.

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Stark County, Ohio



Photograph Location 56. View of Wetland 1. Photograph taken facing north.



Photograph Location 56. View of Wetland 1. Photograph taken facing east.

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Stark County, Ohio



Photograph Location 56. View of Wetland 1. Photograph taken facing south.



Photograph Location 56. View of Wetland 1. Photograph taken facing west.



Photograph Location 56. View of soil profile at wetland determination sample point SP04 within Wetland 1.



Photograph Location 57. View of upland (old field habitat) at wetland determination sample point SP03. Photograph taken facing east.

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Stark County, Ohio



Photograph Location 57. View of upland (old field habitat) at wetland determination sample point SP03. Photograph taken facing west.



Photograph Location 58. Representative view of an upland drainage feature. Photograph taken facing west.

C.2 HABITAT PHOTOGRAPHS

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South Canton-Sunnyside 138 kV Line Rebuild Project
Stark County, Ohio



Photograph Location 1. Representative view of existing paved roadway/surface, new field habitat, and old field habitat. Photograph taken facing northeast.



Photograph Location 2. Representative view of second growth coniferous forest habitat. Photograph taken facing west.

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Stark County, Ohio



Photograph Location 3. Representative view of pasture habitat. Photograph taken facing northeast.



Photograph Location 4. Representative view of existing gravel drive. Photograph taken facing west.

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Stark County, Ohio



Photograph Location 5. Representative view of old field and early successional deciduous forest habitats. Photograph taken facing northeast.



Photograph Location 6. Representative view of new field habitat. Photograph taken facing northeast.

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Stark County, Ohio



Photograph Location 6. Representative view of existing paved roadway/surface. Photograph taken facing southwest.



Photograph Location 7. Representative view of residential lawn habitat. Photograph taken facing northeast.

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Stark County, Ohio



Photograph Location 8. Representative view of new field habitat. Photograph taken facing south.



Photograph Location 9. Representative view of agricultural field habitat. Photograph taken facing south.

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Stark County, Ohio



Photograph Location 10. Representative view of industrial land (existing Sunnyside Station).
Photograph taken facing northwest.



Photograph Location 10. Representative view of old field and early successional deciduous
forest habitats. Photograph taken facing southeast.

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Stark County, Ohio



Photograph Location 11. Representative view of old field habitat. Photograph taken facing north.

Appendix D DATA FORMS

D. 1 WETLAND DETERMINATION DATA FORMS

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project		Stantec Project #: 193708517	Date: 03/14/22
Applicant: AEP Ohio Transmission Company, Inc.			County: Stark
Investigator #1: Kate Bomar	Investigator #2: Matt Denzler		State: Ohio
Soil Unit: Sloan silt loam	NW1/WW1 Classification:		Wetland ID: N/A
Landform: Terrace	Local Relief: Linear		Sample Point: SP01
Slope (%): 0-1	Latitude: 40.75	Longitude: -81.371833	Community ID: UPL
Datum: NAD83			Section: --
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input type="checkbox"/> No			Township: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: -- Dir: --	

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **Sloan silt loam**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	18	1	10YR	4/2	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

<p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):</p> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) <p><small>¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</small></p>
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Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	-------------------	--

Remarks:

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project**

Wetland ID: **N/A**

Sample Point: **SP01**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Herb Stratum (Plot size: 2 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Conium maculatum</i>	10	N	FACW
2.	<i>Polygonum cuspidatum</i>	5	N	FACU
3.	<i>Phalaris arundinacea</i>	40	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		55		

Woody Vine Stratum (Plot size: 10 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:	
OBL spp. <u>0</u>	x 1 =	<u>0</u>
FACW spp. <u>50</u>	x 2 =	<u>100</u>
FAC spp. <u>0</u>	x 3 =	<u>0</u>
FACU spp. <u>5</u>	x 4 =	<u>20</u>
UPL spp. <u>0</u>	x 5 =	<u>0</u>
Total <u>55</u> (A)		<u>120</u> (B)
Prevalence Index = B/A =		<u>2.182</u>

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project		Stantec Project #: 193708517	Date: 03/14/22
Applicant: AEP Ohio Transmission Company, Inc.			County: Stark
Investigator #1: Kate Bomar		Investigator #2: Matt Denzler	State: Ohio
Soil Unit: Sloan silt loam	NWI/WWI Classification:		Wetland ID: N/A
Landform: Terrace	Local Relief: Linear		Sample Point: SP02
Slope (%): 0-1	Latitude: 40.754	Longitude: -81.371433	Datum: NAD83
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input type="checkbox"/> No			Community ID: UPL
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section: --	
		Township: --	
		Range: -- Dir: --	

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Floodplain**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface 	<p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **Sloan silt loam**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)
			Color (Moist)	%		Color (Moist)	%	Type	Location	
0	18	1	10YR	3/2	100	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

<p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) 	<ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions 	<p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
---	--	---

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks:		

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project** Wetland ID: **N/A** Sample Point: **SP02**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Verbesina alternifolia</i>	10	N	FACW
2.	<i>Polygonum cuspidatum</i>	10	N	FACU
3.	<i>Phalaris arundinacea</i>	40	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		60		

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>50</u>	x 2 =	<u>100</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>10</u>	x 4 =	<u>40</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>60</u> (A)	<u>140</u> (B)
Prevalence Index = B/A =		<u>2.333</u>	

Hydrophytic Vegetation Indicators:

<input type="checkbox"/> Yes	<input type="checkbox"/> No	Rapid Test for Hydrophytic Vegetation
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Dominance Test is > 50%
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Prevalence Index is ≤ 3.0 *
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Morphological Adaptations (Explain) *
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project		Stantec Project #: 193708517	Date: 03/15/22
Applicant: AEP Ohio Transmission Company, Inc.		Investigator #1: Kate Bomar	Investigator #2: Matt Denzler
Soil Unit: Fpi1A1, Fairpoint silt loam, 0-8% slopes, reclaimed		NWI/WWI Classification: NA	County: Stark
Landform: Depression		Local Relief: Concave	State: Ohio
Slope (%): 0-2		Latitude: 40.77788	Longitude: -81.355912
		Datum: NAD83	Wetland ID: W01
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Sample Point: SP03	
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Community ID: Upland	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section:	
Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township:	
		Range: Dir: --	

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

Primary:	Secondary:
<input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input checked="" type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test

Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **Fpi1A1, Fairpoint silt loam, 0-8% slopes, reclaimed** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	6	1	10YR	4/2	95	7.5YR	5/8	5	C	M	silt loam
6	10	2	10YR	4/2	50	--	--	--	--	--	fill
6	10	2	10YR	4/6	30	--	--	--	--	--	fill
6	10	2	10YR	5/1	20	--	--	--	--	--	fill
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 127, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
--	--	--	--

Restrictive Layer (if Observed) Type: **Rock** Depth: **10"**

Hydic Soil Present? Yes No

Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W01** Sample Point **SP03**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Daucus carota</i>	10	N	UPL
2.	<i>Setaria faberi</i>	60	Y	UPL
3.	<i>Dipsacus fullonum</i>	10	N	FACU
4.	<i>Symphotrichum ericoides</i>	5	N	FACU
5.	<i>Apocynum cannabinum</i>	10	N	FACU
6.	<i>Verbascum thapsus</i>	10	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		105		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Remarks:				

Additional Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index Worksheet

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp. <u>0</u>	x 1 =	<u>0</u>	
FACW spp. <u>0</u>	x 2 =	<u>0</u>	
FAC spp. <u>0</u>	x 3 =	<u>0</u>	
FACU spp. <u>35</u>	x 4 =	<u>140</u>	
UPL spp. <u>70</u>	x 5 =	<u>350</u>	
Total <u>105</u> (A)		<u>490</u> (B)	
Prevalence Index = B/A = <u>4.667</u>			

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/15/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: Fpi1A1, Fairpoint silt loam, 0-8% slopes, reclaimed	NWI/WWI Classification: NA	Wetland ID: W01
Landform: Slope	Local Relief: Concave	Sample Point: SP04
Slope (%): 2	Latitude: 40.77776	Longitude: -81.355993
	Datum: NAD83	Community ID: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input checked="" type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 1-2" (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **Fpi1A1, Fairpoint silt loam, 0-8% slopes, reclaimed** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	4	1	10YR	5/2	90	10YR	5/8	15	C	M	silty clay loam
4	6	2	10YR	5/2	50	--	--	--	--	--	fill
4	6	2	10YR	4/6	50	--	--	--	--	--	fill
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histic <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, N) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed) Type: Depth: **Hydric Soil Present?** Yes No

Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W01** Sample Point **SP04**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Juncus effusus</i>	10	N	FACW
2.	<i>Phalaris arundinacea</i>	40	Y	FACW
3.	<i>Typha angustifolia</i>	10	N	OBL
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		60		

Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:

OBL spp.	<u>10</u>	x 1 =	<u>10</u>
FACW spp.	<u>50</u>	x 2 =	<u>100</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>

Total 60 (A) 110 (B)

Prevalence Index = B/A = 1.833

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/15/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: CdC, Canfield silt loam, 6-12% slopes	NWI/WWI Classification: NA	Wetland ID: W02
Landform: Depression	Local Relief: Concave	Sample Point: SP05
Slope (%): 2	Latitude: 40.76778	Longitude: -81.360710
	Datum: NAD83	Community ID: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0-1" (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 8 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **CdC, Canfield silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	16	1	10YR	4/2	90	7.5YR	5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed)

Type:	Depth:	Hydic Soil Present? <input type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project Wetland ID: W02 Sample Point SP05

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<u>0</u>		

Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<u>0</u>		

Herb Stratum (Plot size: 5 ft radius)				
1.	<u>Juncus effusus</u>	<u>20</u>	<u>N</u>	<u>FACW</u>
2.	<u>Dichanthelium clandestinum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>
3.	<u>Schedonorus arundinaceus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<u>70</u>		

Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<u>0</u>		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>20</u>	x 2 =	<u>40</u>
FAC spp.	<u>40</u>	x 3 =	<u>120</u>
FACU spp.	<u>10</u>	x 4 =	<u>40</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>70</u> (A)	<u>200</u> (B)
Prevalence Index = B/A = <u>2.857</u>			

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/15/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: CdC, Canfield silt loam, 6-12% slopes	State: Ohio
Landform: Side slope	NWI/WWI Classification: NA	Wetland ID: W02
Slope (%): 2	Local Relief: Linear	Sample Point: SP06
Latitude: 40.76771	Longitude: -81.360788	Community ID: Upland
Datum: NAD83		Section:
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township:
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: Dir: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **CdC, Canfield silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)
			Color (Moist)	%		Color (Moist)	%	Type	Location	
0	16	1	10YR	6/6	70	--	--	--	--	clay loam
--	--	--	10YR	5/2	30	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, N) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)
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Indicators for Problematic Soils ¹

<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed)	Type:	Depth:	Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks:			

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project** Wetland ID: **W02** Sample Point **SP06**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Andropogon virginicus</i>	20	Y	FACU
2.	<i>Schedonorus arundinaceus</i>	20	Y	FACU
3.	<i>Apocynum cannabinum</i>	10	N	FACU
4.	<i>Solidago canadensis</i>	10	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		60		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Remarks:				

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index Worksheet

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>60</u>	x 4 =	<u>240</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total <u>60</u> (A)		<u>240</u> (B)	
Prevalence Index = B/A = <u>4.000</u>			

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/15/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: GdC, Gilpin silt loam, 8-15% slopes	State: Ohio
Landform: Depression	NWI/WWI Classification: NA	Wetland ID: W03
Slope (%): 0-3	Local Relief: Concave	Sample Point: SP07
Latitude: 40.76266	Longitude: -81.362974	Community ID: PEM
Longitude: -81.362974	Datum: NAD83	Section:
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: Dir: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 14 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **GdC, Gilpin silt loam, 8-15% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	6	1	10YR	4/2	98	10YR	5/6	2	C	M	clay loam
6	16	2	10YR	4/2	90	10YR	5/6	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 147) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed)

Type:	Depth:	Hydric Soil Present? <input type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W03** Sample Point **SP07**

VEGETATION (Species identified in all uppercase are non-native species.)						
Tree Stratum (Plot size: 30 ft radius)						
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
1.	--	--	--	--		
2.	--	--	--	--		
3.	--	--	--	--		
4.	--	--	--	--		
5.	--	--	--	--		
6.	--	--	--	--		
7.	--	--	--	--		
8.	--	--	--	--		
9.	--	--	--	--		
10.	--	--	--	--		
Total Cover =		0				
Sapling/Shrub Stratum (Plot size: 15 ft radius)					Prevalence Index Worksheet <u>Total % Cover of:</u> <u>Multiply by:</u> OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>100</u> x 2 = <u>200</u> FAC spp. <u>0</u> x 3 = <u>0</u> FACU spp. <u>0</u> x 4 = <u>0</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.000</u>	
1.	--	--	--	--		
2.	--	--	--	--		
3.	--	--	--	--		
4.	--	--	--	--		
5.	--	--	--	--		
6.	--	--	--	--		
7.	--	--	--	--		
8.	--	--	--	--		
9.	--	--	--	--		
10.	--	--	--	--		
Total Cover =		0				
Herb Stratum (Plot size: 5 ft radius)					Hydrophytic Vegetation Indicators: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Dominance Test is > 50% Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Prevalence Index is ≤ 3.0 * Yes <input type="checkbox"/> No <input type="checkbox"/> Morphological Adaptations (Explain) * Yes <input type="checkbox"/> No <input type="checkbox"/> Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1.	<i>Phalaris arundinacea</i>	100	Y	FACW		
2.	--	--	--	--		
3.	--	--	--	--		
4.	--	--	--	--		
5.	--	--	--	--		
6.	--	--	--	--		
7.	--	--	--	--		
8.	--	--	--	--		
9.	--	--	--	--		
10.	--	--	--	--		
11.	--	--	--	--		
12.	--	--	--	--		
13.	--	--	--	--		
14.	--	--	--	--		
15.	--	--	--	--		
Total Cover =		100				
Woody Vine Stratum (Plot size: 30 ft radius)					Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height.	
1.	--	--	--	--		
2.	--	--	--	--		
3.	--	--	--	--		
4.	--	--	--	--		
5.	--	--	--	--		
Total Cover =		0				
Remarks:					Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/15/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: GdC, Gilpin silt loam, 8-15% slopes	NWI/WWI Classification: NA	Wetland ID: W03
Landform: Side slope	Local Relief: Linear	Sample Point: SP08
Slope (%): 5-10	Latitude: 40.76278	Longitude: -81.363001
	Datum: NAD83	Community ID: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **GdC, Gilpin silt loam, 8-15% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)
			Color (Moist)	%		Color (Moist)	%	Type	Location	
0	3	1	10YR	4/2	100	--	--	--	--	silty clay loam
3	8	2	10YR	4/3	100	--	--	--	--	silty clay loam
8	12	3	10YR	4/3	50	--	--	--	--	silty clay loam
--	--	--	10YR	5/6	50	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, N) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed) Type: **Rock** Depth: **12"**

Hydic Soil Present? Yes No

Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project** Wetland ID: **W03** Sample Point **SP08**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	<i>Prunus serotina</i>	10	Y	FACU
2.	<i>Sassafras albidum</i>	5	Y	FACU
3.	<i>Rubus allegheniensis</i>	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		20		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Lonicera japonica</i>	20	Y	FAC
2.	<i>Epilobium coloratum</i>	5	N	FACW
3.	<i>Phalaris arundinacea</i>	5	N	FACW
4.	<i>Solidago canadensis</i>	10	Y	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		40		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Dominance Test Worksheet				
Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)				
Total Number of Dominant Species Across All Strata: <u>5</u> (B)				
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)				
Prevalence Index Worksheet				
Total % Cover of:				
OBL spp.	<u>0</u>	Multiply by:		<u>1</u> = <u>0</u>
FACW spp.	<u>10</u>	x 2 =	<u>20</u>	
FAC spp.	<u>20</u>	x 3 =	<u>60</u>	
FACU spp.	<u>30</u>	x 4 =	<u>120</u>	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>	
Total <u>60</u> (A)		<u>200</u> (B)		
Prevalence Index = B/A = <u>3.333</u>				
Hydrophytic Vegetation Indicators:				
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Rapid Test for Hydrophytic Vegetation		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Dominance Test is > 50%		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Prevalence Index is ≤ 3.0 *		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Morphological Adaptations (Explain) *		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Problem Hydrophytic Vegetation (Explain) *		
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.				
Woody Vines - All woody vines greater than 3.28 ft. in height.				
Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project		Stantec Project #: 193708517	Date: 03/15/22
Applicant: AEP Ohio Transmission Company, Inc.			County: Stark
Investigator #1: Kate Bomar	Investigator #2: Matt Denzler		State: Ohio
Soil Unit: FcA, Fitchville silt loam, 0-2% slopes	NWI/WWI Classification:		Wetland ID: W04
Landform: Depression	Local Relief: Concave		Sample Point: SP09
Slope (%): 0-1	Latitude: 40.76	Longitude: -81.363449	Community ID: PSS
Datum: NAD83			Section: --
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input type="checkbox"/> No			Township: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: -- Dir: --	

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0-2" (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 10 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 5 (in.)	

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

Remarks:

SOILS

Map Unit Name: **FcA, Fitchville silt loam, 0-2% slopes**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	16	1	10YR	5/2	90	10YR	5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

<p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project**

Wetland ID: **W04**

Sample Point: **SP09**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Cornus amomum</i>	60	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		60		

Herb Stratum (Plot size: 2 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Onoclea sensibilis</i>	5	Y	FACW
2.	<i>Epilobium coloratum</i>	5	Y	OBL
3.	<i>Scirpus cyperinus</i>	5	Y	OBL
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		15		

Woody Vine Stratum (Plot size: 10 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
 Total Number of Dominant Species Across All Strata: 4 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>10</u>	x 1 =	<u>10</u>
FACW spp.	<u>65</u>	x 2 =	<u>130</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>75</u> (A)	<u>140</u> (B)
Prevalence Index = B/A =		<u>1.867</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project		Stantec Project #: 193708517	Date: 03/15/22
Applicant: AEP Ohio Transmission Company, Inc.			County: Stark
Investigator #1: Kate Bomar	Investigator #2: Matt Denzler		State: Ohio
Soil Unit: FcA, Fitchville silt loam, 0-2% slopes	NW1/WW1 Classification:		Wetland ID: W04
Landform: Plain	Local Relief: Linear		Sample Point: SP10
Slope (%): 0-1	Latitude: 40.76174	Longitude: -81.363404	Datum: NAD83
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input type="checkbox"/> No			Community ID: Upland
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township: --	
		Range: -- Dir: --	

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **FcA, Fitchville silt loam, 0-2% slopes**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	12	1	10YR	5/2	95	10YR	4/6	5	C	M	clay loam
12	16	2	10YR	5/2	40	--	--	--	--	--	clay loam
--	--	--	10YR	4/6	60	--	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

<p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) <p><small>¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</small></p>
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Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project**

Wetland ID: **W04**

Sample Point: **SP10**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>Rubus allegheniensis</i>	10	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		10		

Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Solidago canadensis</i>	40	Y	FACU
2.	<i>Epilobium coloratum</i>	5	N	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		45		

Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	<u>5</u>	x 1 =	<u>5</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>50</u>	x 4 =	<u>200</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>55</u> (A)	<u>205</u> (B)
Prevalence Index = B/A =		<u>3.727</u>	

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project		Stantec Project #: 193708517	Date: 03/15/22
Applicant: AEP Ohio Transmission Company, Inc.			County: Stark
Investigator #1: Kate Bomar	Investigator #2: Matt Denzler		State: Ohio
Soil Unit: FcA, Fitchville silt loam, 0-2% slopes	NW1/WW1 Classification:		Wetland ID: W04
Landform: Depression	Local Relief: Concave		Sample Point: SP11
Slope (%): 0-2	Latitude: 40.76011	Longitude: -81.364812	Community ID: W04
Datum: NAD83			Section: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input type="checkbox"/> No			Township: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: -- Dir: --	

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **PEM portion of W04**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 14 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **FcA, Fitchville silt loam, 0-2% slopes**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	16	1	2.5Y	4/1	85	7.5YR	5/8	10	C	M	clay loam
--	--	--	--	--	--	7.5YR	5/8	5	C	PL	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

<p>NRCS Hydic Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project**

Wetland ID: **W04**

Sample Point: **SP11**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Herb Stratum (Plot size: 2 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Typha angustifolia</i>	30	Y	OBL
2.	<i>Onoclea sensibilis</i>	10	N	FACW
3.	<i>Carex frankii</i>	60	Y	OBL
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		

Woody Vine Stratum (Plot size: 10 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	<u>90</u>	x 1 =	<u>90</u>
FACW spp.	<u>10</u>	x 2 =	<u>20</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>

Total 100 (A) 110 (B)

Prevalence Index = B/A = 1.100

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project		Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.		Investigator #1: Kate Bomar	Investigator #2: Matt Denzler
Soil Unit: CdC, Canfield silt loam, 6-12% slopes		NWI/WWI Classification: NA	County: Stark
Landform: Slope		Local Relief: Concave	State: Ohio
Slope (%): 0-3		Latitude: 40.74793	Longitude: -81.378757
		Datum: NAD83	Wetland ID: W05
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Township:	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --	
Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **PEM portion of W05**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0-2 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 12 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **CdC, Canfield silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture		
			Color (Moist)	%		Color (Moist)	%	Type	Location	(e.g. clay, sand, loam)	
0	5	1	10YR	4/2	95	10YR	5/8	5	C	PL	clay loam
5	16	2	10YR	4/2	90	5YR	4/6	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed)

Type:	Depth:	Hydic Soil Present? <input type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project Wetland ID: W05 Sample Point SP12

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Onoclea sensibilis</i>	15	Y	FACW
2.	<i>Solidago gigantea</i>	10	N	FACW
3.	<i>Phalaris arundinacea</i>	40	Y	FACW
4.	<i>Elymus virginicus</i>	10	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		75		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
OBL spp.	<u>0</u>	x 1 =	<u>0</u>	
FACW spp.	<u>75</u>	x 2 =	<u>150</u>	
FAC spp.	<u>0</u>	x 3 =	<u>0</u>	
FACU spp.	<u>0</u>	x 4 =	<u>0</u>	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>	
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	NWI/WWI Classification: NA	State: Ohio
Soil Unit: CdC, Canfield silt loam, 6-12% slopes	Local Relief: Linear	Wetland ID: W05
Landform: Slope	Datum: NAD83	Sample Point: SP13
Slope (%): 0-3	Latitude: 40.74788	Longitude: -81.378659
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present?	Township: Dir: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: Dir: --

SUMMARY OF FINDINGS	
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present): **Secondary:**

Primary: <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Depth: 14 (in.) Depth: (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks:

SOILS

Map Unit Name: **CdC, Canfield silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pure Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type			
0	16	2	10YR	4/3	90	10YR	5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present): <input checked="" type="checkbox"/> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck (LRR N) <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> S4 - Sandy Gleyed Matrix 	<ul style="list-style-type: none"> <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions 	Indicators for Problematic Soils¹ <ul style="list-style-type: none"> <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, I) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed)	Type:	Depth:	Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project** Wetland ID: **W05** Sample Point **SP13**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Frangula alnus</i>	60	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		60		

Herb Stratum (Plot size: 5 ft radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Plantago lanceolata</i>	10	Y	UPL
2.	<i>Solidago canadensis</i>	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		15		

Woody Vine Stratum (Plot size: 30 ft radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Remarks:

Additional Remarks:

Dominance Test Worksheet	
Number of Dominant Species that are OBL, FACW, or FAC:	<u>1</u> (A)
Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>33.3%</u> (A/B)

Prevalence Index Worksheet	
Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>0</u>	x 2 = <u>0</u>
FAC spp. <u>60</u>	x 3 = <u>180</u>
FACU spp. <u>5</u>	x 4 = <u>20</u>
UPL spp. <u>10</u>	x 5 = <u>50</u>
Total <u>75</u> (A)	<u>250</u> (B)
Prevalence Index = B/A = <u>3.333</u>	

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation
 Yes No Dominance Test is > 50%
 Yes No Prevalence Index is ≤ 3.0 *
 Yes No Morphological Adaptations (Explain) *
 Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: CdC, Canfield silt loam, 6-12% slopes	NWI/WWI Classification: NA	Wetland ID: W05
Landform: Slope	Local Relief: Linear	Sample Point: SP14
Slope (%): 0-3	Latitude: 40.74801	Longitude: -81.378816
	Datum: NAD83	Community ID: PSS
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **PSS portion of W05**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 1-2" (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 12 (in.)	

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

Remarks:

SOILS

Map Unit Name: **CdC, Canfield silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	5	1	10YR	4/2	90	2.5YR	3/6	10	C	M	clay loam
5	16	2	10YR	4/2	80	2.5YR	3/6	20	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histic Epipedon <input type="checkbox"/> 2- Histic Epipedon <input type="checkbox"/> 3- Black Histic <input type="checkbox"/> 4- Hydrogen Sulfide <input type="checkbox"/> 5- Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed)

Type:	Depth:	Hydric Soil Present? <input type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project** Wetland ID: **W05** Sample Point **SP14**

VEGETATION (Species identified in all uppercase are non-native species.)																																				
Tree Stratum (Plot size: 30 ft radius)																																				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>																																
1.	--	--	--	--																																
2.	--	--	--	--																																
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9.	--	--	--	--																																
10.	--	--	--	--																																
Total Cover =		0																																		
Sapling/Shrub Stratum (Plot size: 15 ft radius)																																				
1.	<i>Comus amomum</i>	60	Y	FACW																																
2.	--	--	--	--																																
3.	--	--	--	--																																
4.	--	--	--	--																																
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10.	--	--	--	--																																
Total Cover =		60																																		
Herb Stratum (Plot size: 5 ft radius)																																				
1.	<i>Rumex crispus</i>	5	Y	FAC																																
2.	<i>Onoclea sensibilis</i>	5	Y	FACW																																
3.	--	--	--	--																																
4.	--	--	--	--																																
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Total Cover =		10																																		
Woody Vine Stratum (Plot size: 30 ft radius)																																				
1.	--	--	--	--																																
2.	--	--	--	--																																
3.	--	--	--	--																																
4.	--	--	--	--																																
5.	--	--	--	--																																
Total Cover =		0																																		
<p>Dominance Test Worksheet</p> <p>Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>3</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)</p> <hr/> <p>Prevalence Index Worksheet</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: left;"><u>Total % Cover of:</u></td> <td colspan="2" style="text-align: left;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL spp.</td> <td align="right"><u>0</u></td> <td>x 1 =</td> <td align="right"><u>0</u></td> </tr> <tr> <td>FACW spp.</td> <td align="right"><u>65</u></td> <td>x 2 =</td> <td align="right"><u>130</u></td> </tr> <tr> <td>FAC spp.</td> <td align="right"><u>5</u></td> <td>x 3 =</td> <td align="right"><u>15</u></td> </tr> <tr> <td>FACU spp.</td> <td align="right"><u>0</u></td> <td>x 4 =</td> <td align="right"><u>0</u></td> </tr> <tr> <td>UPL spp.</td> <td align="right"><u>0</u></td> <td>x 5 =</td> <td align="right"><u>0</u></td> </tr> <tr> <td colspan="2">Total</td> <td><u>70</u> (A)</td> <td><u>145</u> (B)</td> </tr> <tr> <td colspan="4">Prevalence Index = B/A = <u>2.071</u></td> </tr> </table> <hr/> <p>Hydrophytic Vegetation Indicators:</p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation</p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Dominance Test is > 50%</p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Prevalence Index is ≤ 3.0 *</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> Morphological Adaptations (Explain) *</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> Problem Hydrophytic Vegetation (Explain) *</p> <p>* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <hr/> <p>Definitions of Vegetation Strata:</p> <p>Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.</p> <p>Woody Vines - All woody vines greater than 3.28 ft. in height.</p> <hr/> <p>Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>					<u>Total % Cover of:</u>		<u>Multiply by:</u>		OBL spp.	<u>0</u>	x 1 =	<u>0</u>	FACW spp.	<u>65</u>	x 2 =	<u>130</u>	FAC spp.	<u>5</u>	x 3 =	<u>15</u>	FACU spp.	<u>0</u>	x 4 =	<u>0</u>	UPL spp.	<u>0</u>	x 5 =	<u>0</u>	Total		<u>70</u> (A)	<u>145</u> (B)	Prevalence Index = B/A = <u>2.071</u>			
<u>Total % Cover of:</u>		<u>Multiply by:</u>																																		
OBL spp.	<u>0</u>	x 1 =	<u>0</u>																																	
FACW spp.	<u>65</u>	x 2 =	<u>130</u>																																	
FAC spp.	<u>5</u>	x 3 =	<u>15</u>																																	
FACU spp.	<u>0</u>	x 4 =	<u>0</u>																																	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>																																	
Total		<u>70</u> (A)	<u>145</u> (B)																																	
Prevalence Index = B/A = <u>2.071</u>																																				
Remarks:																																				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	Investigator #2: Matt Denzler
Soil Unit: Bhn7B1, Bethesda channery loam 0-8% slopes, unreclaimed	NWI/WWI Classification: PUBG	County: Stark
Landform: Depression	Local Relief: Concave	State: Ohio
Slope (%): 0	Latitude: 40.73839	Longitude: -81.387261
	Datum: NAD83	Wetland ID: W06
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Sample Point: SP15
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input type="checkbox"/> Yes <input type="checkbox"/> No	Community ID: PUB
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section:
SUMMARY OF FINDINGS		Township:
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: Dir: --
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: unreclaimed mine land		

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input checked="" type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 10" (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	

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

Remarks:

SOILS

Map Unit Name: **Bhn7B1, Bethesda channery loam 0-8% slopes, unreclaimed** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	1	1	N	3/N	100	2.5YR	3/6	10	C	M	muck
1	9	2	N	4/1	100	2.5YR	3/6	20	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
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NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input checked="" type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, N) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **Rock** Depth: **9"**

Hydic Soil Present? Yes No

Remarks:

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W06** Sample Point **SP15**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Scirpus cyperinus</i>	15	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		15		

Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>15</u>	x 2 =	<u>30</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total <u>15</u> (A)		<u>30</u> (B)	
Prevalence Index = B/A = <u>2.000</u>			

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: Bhn7B1, Bethesda channery loam 0-8% slopes, unreclaimed	NWI/WWI Classification: NA	Wetland ID: W06
Landform: Side slope	Local Relief: Linear	Sample Point: SP16
Slope (%): 3-5	Latitude: 40.73848	Longitude: -81.387252
	Datum: NAD83	Community ID: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **unreclaimed mine land**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **Bhn7B1, Bethesda channery loam 0-8% slopes, unreclaimed** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)		%	Type		Location
0	1	1	2.5Y	2.5/1	100	--	--	--	--	--	silty clay loam
1	12	2	10YR	2.5/1	100	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histic Epipedon <input type="checkbox"/> 2- Histic Epipedon <input type="checkbox"/> 3- Black Histic <input type="checkbox"/> 4- Hydrogen Sulfide <input type="checkbox"/> 5- Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed) Type: **Rock** Depth: **12"**

Hydic Soil Present? Yes No

Remarks: **coal fragments**

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project Wetland ID: W06 Sample Point SP16

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	<i>Frangula alnus</i>	15	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		15		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Dichanthelium clandestinum</i>	25	Y	FAC
2.	<i>Andropogon virginicus</i>	25	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		50		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Dominance Test Worksheet				
Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)				
Total Number of Dominant Species Across All Strata: <u>3</u> (B)				
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)				
Prevalence Index Worksheet				
Total % Cover of:				
OBL spp.	<u>0</u>	x 1 =	<u>0</u>	
FACW spp.	<u>0</u>	x 2 =	<u>0</u>	
FAC spp.	<u>40</u>	x 3 =	<u>120</u>	
FACU spp.	<u>25</u>	x 4 =	<u>100</u>	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>	
Total		<u>65</u> (A)	<u>220</u> (B)	
Prevalence Index = B/A = <u>3.385</u>				
Hydrophytic Vegetation Indicators:				
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Rapid Test for Hydrophytic Vegetation		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Dominance Test is > 50%		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Prevalence Index is ≤ 3.0 *		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Morphological Adaptations (Explain) *		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Problem Hydrophytic Vegetation (Explain) *		
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.				
Woody Vines - All woody vines greater than 3.28 ft. in height.				
Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project		Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.		Investigator #1: Kate Bomar	Investigator #2: Matt Denzler
Soil Unit: WIB, Wellston silt loam, 3-8% slopes		NWI/WWI Classification: NA	
Landform: Side slope	Local Relief: Linear		Wetland ID: W07
Slope (%): 0-3	Latitude: 40.73920	Longitude: -81.386535	Sample Point: SP17
Datum: NAD83			Community ID: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township:	
Range:			Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0-1 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **WIB, Wellston silt loam, 3-8% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	9	1	10YR	4/2	96	10YR	5/8	4	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histic Epipedon <input type="checkbox"/> 2- Histic Gyp <input type="checkbox"/> 3- Black Histic <input type="checkbox"/> 4- Hydrogen Sulfide <input type="checkbox"/> 5- Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed) Type: **Rock** Depth: **9"**

Hydic Soil Present? Yes No

Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: South Canton-Sunnyside 138 kV Line Rebuild Project Wetland ID: W07 Sample Point SP17

VEGETATION (Species identified in all uppercase are non-native species.)																
Tree Stratum (Plot size: 30 ft radius)																
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>												
1.	--	--	--	--												
2.	--	--	--	--												
3.	--	--	--	--												
4.	--	--	--	--												
5.	--	--	--	--												
6.	--	--	--	--												
7.	--	--	--	--												
8.	--	--	--	--												
9.	--	--	--	--												
10.	--	--	--	--												
Total Cover =		0														
Sapling/Shrub Stratum (Plot size: 15 ft radius)																
1.	--	--	--	--												
2.	--	--	--	--												
3.	--	--	--	--												
4.	--	--	--	--												
5.	--	--	--	--												
6.	--	--	--	--												
7.	--	--	--	--												
8.	--	--	--	--												
9.	--	--	--	--												
10.	--	--	--	--												
Total Cover =		0														
Herb Stratum (Plot size: 5 ft radius)																
1.	<i>Scirpus cyperinus</i>	15	N	FACW												
2.	<i>Spiraea tomentosa</i>	15	N	FACW												
3.	<i>Dichanthelium clandestinum</i>	40	Y	FAC												
4.	<i>Carex frankii</i>	30	Y	OBL												
5.	--	--	--	--												
6.	--	--	--	--												
7.	--	--	--	--												
8.	--	--	--	--												
9.	--	--	--	--												
10.	--	--	--	--												
11.	--	--	--	--												
12.	--	--	--	--												
13.	--	--	--	--												
14.	--	--	--	--												
15.	--	--	--	--												
Total Cover =		100														
Woody Vine Stratum (Plot size: 30 ft radius)																
1.	--	--	--	--												
2.	--	--	--	--												
3.	--	--	--	--												
4.	--	--	--	--												
5.	--	--	--	--												
Total Cover =		0														
Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
Prevalence Index Worksheet Total % Cover of: <table style="float: right; margin-left: 20px;"> <tr><td colspan="2"><u>Multiply by:</u></td></tr> <tr><td>OBL spp. <u>30</u></td><td>x 1 = <u>30</u></td></tr> <tr><td>FACW spp. <u>30</u></td><td>x 2 = <u>60</u></td></tr> <tr><td>FAC spp. <u>40</u></td><td>x 3 = <u>120</u></td></tr> <tr><td>FACU spp. <u>0</u></td><td>x 4 = <u>0</u></td></tr> <tr><td>UPL spp. <u>0</u></td><td>x 5 = <u>0</u></td></tr> </table> Total <u>100</u> (A) <u>210</u> (B) Prevalence Index = B/A = <u>2.100</u>					<u>Multiply by:</u>		OBL spp. <u>30</u>	x 1 = <u>30</u>	FACW spp. <u>30</u>	x 2 = <u>60</u>	FAC spp. <u>40</u>	x 3 = <u>120</u>	FACU spp. <u>0</u>	x 4 = <u>0</u>	UPL spp. <u>0</u>	x 5 = <u>0</u>
<u>Multiply by:</u>																
OBL spp. <u>30</u>	x 1 = <u>30</u>															
FACW spp. <u>30</u>	x 2 = <u>60</u>															
FAC spp. <u>40</u>	x 3 = <u>120</u>															
FACU spp. <u>0</u>	x 4 = <u>0</u>															
UPL spp. <u>0</u>	x 5 = <u>0</u>															
Hydrophytic Vegetation Indicators: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Dominance Test is > 50% Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Prevalence Index is ≤ 3.0 * Yes <input type="checkbox"/> No <input type="checkbox"/> Morphological Adaptations (Explain) * Yes <input type="checkbox"/> No <input type="checkbox"/> Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Definitions of Vegetation Strata: <p>Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.</p> <p>Woody Vines - All woody vines greater than 3.28 ft. in height.</p>																
Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																
Remarks:																

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: WIB, Wellston silt loam, 3-8% slopes	State: Ohio
Landform: Side slope	NWI/WWI Classification: NA	Wetland ID: W07
Slope (%): 2-4	Local Relief: Linear	Sample Point: SP18
Latitude: 40.73236	Longitude: -81.386569	Community ID: Upland
Datum: NAD83	Section:	
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: Dir: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **WIB, Wellston silt loam, 3-8% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Type	Location	Texture (e.g. clay, sand, loam)
			Color (Moist)	%		Color (Moist)	%				
0	5	1	10YR	4/3	98	10YR	5/6	2	C	M	clay loam
5	12	2	10YR	4/3	50	--	--	--	--	--	clay loam
--	--	2	10YR	5/4	50	--	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed) Type: **Rock** Depth: **12"**

Hydic Soil Present? Yes No

Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project** Wetland ID: **W07** Sample Point **SP18**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	<i>Rubus allegheniensis</i>	15	Y	FACU
2.	<i>Frangula alnus</i>	15	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		30		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Andropogon virginicus</i>	25	Y	FACU
2.	<i>Solidago canadensis</i>	15	N	FACU
3.	<i>Setaria faberi</i>	30	Y	UPL
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		70		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Remarks:				

Dominance Test Worksheet	
Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)	
Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)	
Prevalence Index Worksheet	
Total % Cover of:	Multiply by:
OBL spp. <u>0</u>	x 1 = <u>0</u>
FACW spp. <u>0</u>	x 2 = <u>0</u>
FAC spp. <u>15</u>	x 3 = <u>45</u>
FACU spp. <u>55</u>	x 4 = <u>220</u>
UPL spp. <u>30</u>	x 5 = <u>150</u>
Total <u>100</u> (A)	<u>415</u> (B)
Prevalence Index = B/A = <u>4.150</u>	
Hydrophytic Vegetation Indicators:	
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Rapid Test for Hydrophytic Vegetation
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Dominance Test is > 50%
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Prevalence Index is ≤ 3.0 *
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Morphological Adaptations (Explain) *
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Problem Hydrophytic Vegetation (Explain) *
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definitions of Vegetation Strata:	
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.	
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.	
Woody Vines - All woody vines greater than 3.28 ft. in height.	
Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: FcA, Fitchville silt loam, 0-2% slopes	State: Ohio
Local Relief: Linear	NWI/WWI Classification: NA	Wetland ID: W08
Slope (%): 5-7	Latitude: 40.74139	Sample Point: SP19
Longitude: -81.384650	Datum: NAD83	Community ID: PSS
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0-2 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 6 (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0 (in.)	

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

Remarks:

SOILS

Map Unit Name: **FcA, Fitchville silt loam, 0-2% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	16	1	10YR	4/2	96	10YR	5/8	4	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, N) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed)

Type:	Depth:	Hydic Soil Present? <input type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W08** Sample Point **SP19**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	<i>Cornus amomum</i>	15	Y	FACW
2.	<i>Frangula alnus</i>	20	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		35		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Scirpus cyperinus</i>	15	Y	FACW
2.	<i>Onoclea sensibilis</i>	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		20		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Dominance Test Worksheet				
Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A)				
Total Number of Dominant Species Across All Strata: <u>4</u> (B)				
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)				
Prevalence Index Worksheet				
Total % Cover of:				
OBL spp.	<u>0</u>	x 1 =	<u>0</u>	
FACW spp.	<u>35</u>	x 2 =	<u>70</u>	
FAC spp.	<u>20</u>	x 3 =	<u>60</u>	
FACU spp.	<u>0</u>	x 4 =	<u>0</u>	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>	
Total		<u>55</u> (A)	<u>130</u> (B)	
Prevalence Index = B/A = <u>2.364</u>				
Hydrophytic Vegetation Indicators:				
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Rapid Test for Hydrophytic Vegetation		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Dominance Test is > 50%		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Prevalence Index is ≤ 3.0 *		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Morphological Adaptations (Explain) *		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Problem Hydrophytic Vegetation (Explain) *		
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.				
Woody Vines - All woody vines greater than 3.28 ft. in height.				
Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: FcA, Fitchville silt loam, 0-2% slopes	State: Ohio
Landform: Side slope	NWI/WWI Classification: NA	Wetland ID: W08
Slope (%): 5-7	Local Relief: Linear	Sample Point: SP20
Latitude: 40.74152	Longitude: -81.384656	Community ID: Upland
Datum: NAD83	Section:	
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: Dir: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **FcA, Fitchville silt loam, 0-2% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)
			Color (Moist)	%		Color (Moist)	%	Type	Location	
0	16	1	10YR	4/4	100	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 147) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed) Type: Depth: **Hydic Soil Present?** Yes No

Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W08** Sample Point **SP20**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	<i>Rubus allegheniensis</i>	15	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		15		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Dichanthelium clandestinum</i>	60	Y	FAC
2.	<i>Solidago canadensis</i>	10	N	FACU
3.	<i>Setaria faberi</i>	15	N	UPL
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		85		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Dominance Test Worksheet				
Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)				
Total Number of Dominant Species Across All Strata: <u>2</u> (B)				
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)				
Prevalence Index Worksheet				
Total % Cover of:				
OBL spp.	<u>0</u>	x 1 =	<u>0</u>	
FACW spp.	<u>0</u>	x 2 =	<u>0</u>	
FAC spp.	<u>60</u>	x 3 =	<u>180</u>	
FACU spp.	<u>25</u>	x 4 =	<u>100</u>	
UPL spp.	<u>15</u>	x 5 =	<u>75</u>	
Total		<u>100</u> (A)	<u>355</u> (B)	
Prevalence Index = B/A = <u>3.550</u>				
Hydrophytic Vegetation Indicators:				
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Rapid Test for Hydrophytic Vegetation		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Dominance Test is > 50%		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Prevalence Index is ≤ 3.0 *		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Morphological Adaptations (Explain) *		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Problem Hydrophytic Vegetation (Explain) *		
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.				
Woody Vines - All woody vines greater than 3.28 ft. in height.				
Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project		Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.		Investigator #1: Kate Bomar	Investigator #2: Matt Denzler
Soil Unit: BoC, Bogart silt loam, 6-12% slopes		NWI/WWI Classification: NA	County: Stark
Landform: Terrace		Local Relief: Concave	State: Ohio
Slope (%): 0-2		Latitude: 40.74252	Longitude: -81.383902
		Datum: NAD83	Wetland ID: W09
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Sample Point: SP21	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Community ID: PEM	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section:	
Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township:	
		Range: Dir: --	

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0-2 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 2 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **BoC, Bogart silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	16	1	10YR	4/2	90	10YR	5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histic Epipedon <input type="checkbox"/> 2- Black Histic <input type="checkbox"/> 3- Black Histic <input type="checkbox"/> 4- Hydrogen Sulfide <input type="checkbox"/> 5- Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed)

Type:	Depth:	Hydric Soil Present? <input type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project Wetland ID: W09 Sample Point SP21

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	<i>Comus amomum</i>	5	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		5		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Phalaris arundinacea</i>	90	Y	FACW
2.	<i>Juncus effusus</i>	10	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Dominance Test Worksheet				
Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)				
Total Number of Dominant Species Across All Strata: <u>2</u> (B)				
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)				
Prevalence Index Worksheet				
Total % Cover of:				
OBL spp.	<u>0</u>	x 1 =	<u>0</u>	
FACW spp.	<u>105</u>	x 2 =	<u>210</u>	
FAC spp.	<u>0</u>	x 3 =	<u>0</u>	
FACU spp.	<u>0</u>	x 4 =	<u>0</u>	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>	
Total		<u>105</u> (A)	<u>210</u> (B)	
Prevalence Index = B/A = <u>2.000</u>				
Hydrophytic Vegetation Indicators:				
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Rapid Test for Hydrophytic Vegetation		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Dominance Test is > 50%		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Prevalence Index is ≤ 3.0 *		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Morphological Adaptations (Explain) *		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Problem Hydrophytic Vegetation (Explain) *		
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.				
Woody Vines - All woody vines greater than 3.28 ft. in height.				
Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: BoC, Bogart silt loam, 6-12% slopes	State: Ohio
Landform: Side slope	NWI/WWI Classification: NA	Wetland ID: W09
Slope (%): 4-5	Local Relief: Linear	Sample Point: SP22
Latitude: 40.74250	Longitude: -81.383974	Community ID: Upland
Datum: NAD83	Section:	
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: Dir: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **BoC, Bogart silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	4	1	10YR	4/2	100	--	--	--	--	--	silt loam
4	10	2	10YR	5/6	60	--	--	--	--	--	silt loam
4	10	2	10YR	4/2	40	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed) Type: **Rock** Depth: **10"**

Hydic Soil Present? Yes No

Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project** Wetland ID: **W09** Sample Point **SP22**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	<i>Rubus allegheniensis</i>	5	Y	FACU
2.	<i>Quercus palustris</i>	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		10		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Andropogon virginicus</i>	40	Y	FACU
2.	<i>Solidago canadensis</i>	15	Y	FACU
3.	<i>Onoclea sensibilis</i>	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		60		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Dominance Test Worksheet				
Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)				
Total Number of Dominant Species Across All Strata: <u>4</u> (B)				
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)				
Prevalence Index Worksheet				
Total % Cover of:				
OBL spp.	<u>0</u>	x 1 =	<u>0</u>	
FACW spp.	<u>10</u>	x 2 =	<u>20</u>	
FAC spp.	<u>0</u>	x 3 =	<u>0</u>	
FACU spp.	<u>60</u>	x 4 =	<u>240</u>	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>	
Total		<u>70</u> (A)	<u>260</u> (B)	
Prevalence Index = B/A = <u>3.714</u>				
Hydrophytic Vegetation Indicators:				
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Rapid Test for Hydrophytic Vegetation		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Dominance Test is > 50%		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Prevalence Index is ≤ 3.0 *		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Morphological Adaptations (Explain) *		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Problem Hydrophytic Vegetation (Explain) *		
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.				
Woody Vines - All woody vines greater than 3.28 ft. in height.				
Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: MsC, Muskingum silt loam, 6-12% slopes	NWI/WWI Classification: NA	Wetland ID: W10
Landform: Terrace	Local Relief: Concave	Sample Point: SP23
Slope (%): 2-4	Latitude: 40.74416	Longitude: -81.382512
	Datum: NAD83	Community ID: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0-2 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 5 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **MsC, Muskingum silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	6	1	10YR	4/2	95	10YR	5/8	5	C	M	clay loam
6	12	2	10YR	6/4	25	10YR	5/8	5	C	M	clay loam
6	12	2	10YR	4/3	70	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histic <input type="checkbox"/> 2- Histic Epipedon <input type="checkbox"/> 3- Black Histic <input type="checkbox"/> 4- Hydrogen Sulfide <input type="checkbox"/> 5- Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **Rock** Depth: **12"**

Hydic Soil Present? Yes No

Remarks:

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W10** Sample Point **SP23**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Juncus effusus</i>	10	N	FACW
2.	<i>Dichanthelium clandestinum</i>	15	N	FAC
3.	<i>Phalaris arundinacea</i>	75	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Remarks:				

Additional Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>85</u>	x 2 =	<u>170</u>
FAC spp.	<u>15</u>	x 3 =	<u>45</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total <u>100</u> (A)		<u>215</u> (B)	
Prevalence Index = B/A = <u>2.150</u>			

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/16/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: BoC, Bogart silt loam, 6-12% slopes	State: Ohio
Landform: Side slope	NWI/WWI Classification: NA	Wetland ID: W10
Slope (%): 5-7	Local Relief: Linear	Sample Point: SP24
Latitude: 40.74403	Longitude: -81.382505	Datum: NAD83
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Community ID: Upland
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township:
Remarks:		Range: Dir: --

SUMMARY OF FINDINGS	
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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<p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p>	<p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: **BoC, Bogart silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description <small>(Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)</small>											
Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	14	1	10YR	3/3	100	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present): <input checked="" type="checkbox"/>		Indicators for Problematic Soils ¹	
<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)

Restrictive Layer (if Observed) Type: Rock	Depth: 14"	Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project Wetland ID: W10 Sample Point SP24

VEGETATION (Species identified in all uppercase are non-native species.)																								
Tree Stratum (Plot size: 30 ft radius)																								
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>																				
1.	--	--	--	--																				
2.	--	--	--	--																				
3.	--	--	--	--																				
4.	--	--	--	--																				
5.	--	--	--	--																				
6.	--	--	--	--																				
7.	--	--	--	--																				
8.	--	--	--	--																				
9.	--	--	--	--																				
10.	--	--	--	--																				
Total Cover =		0																						
Sapling/Shrub Stratum (Plot size: 15 ft radius)																								
1.	--	--	--	--																				
2.	--	--	--	--																				
3.	--	--	--	--																				
4.	--	--	--	--																				
5.	--	--	--	--																				
6.	--	--	--	--																				
7.	--	--	--	--																				
8.	--	--	--	--																				
9.	--	--	--	--																				
10.	--	--	--	--																				
Total Cover =		0																						
Herb Stratum (Plot size: 5 ft radius)																								
1.	<i>Schedonorus arundinaceus</i>	90	Y	FACU																				
2.	<i>Apocynum cannabinum</i>	10	N	FACU																				
3.	--	--	--	--																				
4.	--	--	--	--																				
5.	--	--	--	--																				
6.	--	--	--	--																				
7.	--	--	--	--																				
8.	--	--	--	--																				
9.	--	--	--	--																				
10.	--	--	--	--																				
11.	--	--	--	--																				
12.	--	--	--	--																				
13.	--	--	--	--																				
14.	--	--	--	--																				
15.	--	--	--	--																				
Total Cover =		100																						
Woody Vine Stratum (Plot size: 30 ft radius)																								
1.	--	--	--	--																				
2.	--	--	--	--																				
3.	--	--	--	--																				
4.	--	--	--	--																				
5.	--	--	--	--																				
Total Cover =		0																						
Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																								
Prevalence Index Worksheet Total % Cover of: <table style="margin-left: 20px; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black;">OBL spp. <u>0</u></td> <td style="border-bottom: 1px solid black;">x</td> <td style="border-bottom: 1px solid black;">1 =</td> <td style="border-bottom: 1px solid black;"><u>0</u></td> </tr> <tr> <td style="border-bottom: 1px solid black;">FACW spp. <u>0</u></td> <td style="border-bottom: 1px solid black;">x</td> <td style="border-bottom: 1px solid black;">2 =</td> <td style="border-bottom: 1px solid black;"><u>0</u></td> </tr> <tr> <td style="border-bottom: 1px solid black;">FAC spp. <u>0</u></td> <td style="border-bottom: 1px solid black;">x</td> <td style="border-bottom: 1px solid black;">3 =</td> <td style="border-bottom: 1px solid black;"><u>0</u></td> </tr> <tr> <td style="border-bottom: 1px solid black;">FACU spp. <u>100</u></td> <td style="border-bottom: 1px solid black;">x</td> <td style="border-bottom: 1px solid black;">4 =</td> <td style="border-bottom: 1px solid black;"><u>400</u></td> </tr> <tr> <td style="border-bottom: 1px solid black;">UPL spp. <u>0</u></td> <td style="border-bottom: 1px solid black;">x</td> <td style="border-bottom: 1px solid black;">5 =</td> <td style="border-bottom: 1px solid black;"><u>0</u></td> </tr> </table> Total <u>100</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>4.000</u>					OBL spp. <u>0</u>	x	1 =	<u>0</u>	FACW spp. <u>0</u>	x	2 =	<u>0</u>	FAC spp. <u>0</u>	x	3 =	<u>0</u>	FACU spp. <u>100</u>	x	4 =	<u>400</u>	UPL spp. <u>0</u>	x	5 =	<u>0</u>
OBL spp. <u>0</u>	x	1 =	<u>0</u>																					
FACW spp. <u>0</u>	x	2 =	<u>0</u>																					
FAC spp. <u>0</u>	x	3 =	<u>0</u>																					
FACU spp. <u>100</u>	x	4 =	<u>400</u>																					
UPL spp. <u>0</u>	x	5 =	<u>0</u>																					
Hydrophytic Vegetation Indicators: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Dominance Test is > 50% Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Prevalence Index is ≤ 3.0 * Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Morphological Adaptations (Explain) * Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
Definitions of Vegetation Strata: <p>Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.</p> <p>Woody Vines - All woody vines greater than 3.28 ft. in height.</p>																								
Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																								
Remarks:																								

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: FcA, Fitchville silt loam, 0-2% slopes	State: Ohio
Landform: Side slope	NWI/WWI Classification: NA	Wetland ID: W11
Slope (%): 3-4	Local Relief: Linear	Sample Point: SP25
Latitude: 40.74466	Longitude: -81.381913	Community ID: Upland
Datum: NAD83	Section:	
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: Dir: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **FcA, Fitchville silt loam, 0-2% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	6	1	10YR	4/3	95	10YR	5/8	5	C	M	clay loam
6	14	2	10YR	4/3	20	--	--	--	--	--	clay loam
6	14	2	10YR	7/8	15	--	--	--	--	--	clay loam
6	14	2	10YR	6/4	65	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histic Epipedon <input type="checkbox"/> 2- Histic Epipedon <input type="checkbox"/> 3- Black Histic <input type="checkbox"/> 4- Hydrogen Sulfide <input type="checkbox"/> 5- Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth: **Hydic Soil Present?** Yes No

Remarks:

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W11** Sample Point **SP25**

VEGETATION (Species identified in all uppercase are non-native species.)								
Tree Stratum (Plot size: 30 ft radius)					Dominance Test Worksheet			
1.	<i>Species Name</i>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>	Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)			
2.	--	--	--	--	Total Number of Dominant Species Across All Strata: <u>3</u> (B)			
3.	--	--	--	--	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)			
4.	--	--	--	--	Prevalence Index Worksheet			
5.	--	--	--	--				
6.	--	--	--	--				
7.	--	--	--	--				
8.	--	--	--	--				
9.	--	--	--	--				
10.	--	--	--	--				
Total Cover = <u>0</u>							Total % Cover of:	
Sapling/Shrub Stratum (Plot size: 15 ft radius)							Multiply by:	
1.	<i>Rubus allegheniensis</i>	5	Y	FACU			OBL spp. <u>0</u>	x 1 = <u>0</u>
2.	--	--	--	--	FACW spp. <u>0</u>	x 2 = <u>0</u>		
3.	--	--	--	--	FAC spp. <u>45</u>	x 3 = <u>135</u>		
4.	--	--	--	--	FACU spp. <u>60</u>	x 4 = <u>240</u>		
5.	--	--	--	--	UPL spp. <u>0</u>	x 5 = <u>0</u>		
6.	--	--	--	--	Total <u>105</u> (A) <u>375</u> (B)			
7.	--	--	--	--	Prevalence Index = B/A = <u>3.571</u>			
8.	--	--	--	--	Hydrophytic Vegetation Indicators:			
9.	--	--	--	--				
10.	--	--	--	--				
Total Cover = <u>5</u>							Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
Herb Stratum (Plot size: 5 ft radius)							Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Dominance Test is > 50%	
1.	<i>Dichanthelium clandestinum</i>	30	Y	FAC			Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Prevalence Index is ≤ 3.0 *	
2.	<i>Pycnanthemum virginianum</i>	15	N	FACU			Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Morphological Adaptations (Explain) *	
3.	<i>Apocynum cannabinum</i>	10	N	FACU			Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Problem Hydrophytic Vegetation (Explain) *	
4.	<i>Andropogon virginicus</i>	45	Y	FACU			* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5.	--	--	--	--			Definitions of Vegetation Strata:	
6.	--	--	--	--				
7.	--	--	--	--				
8.	--	--	--	--				
9.	--	--	--	--				
10.	--	--	--	--				
11.	--	--	--	--				
12.	--	--	--	--				
13.	--	--	--	--				
14.	--	--	--	--				
15.	--	--	--	--	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.			
Total Cover = <u>100</u>					Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.			
Woody Vine Stratum (Plot size: 30 ft radius)					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.			
1.	--	--	--	--	Woody Vines - All woody vines greater than 3.28 ft. in height.			
2.	--	--	--	--	Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
3.	--	--	--	--				
4.	--	--	--	--				
5.	--	--	--	--				
Total Cover = <u>0</u>								
Remarks:								

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: FcA, Fitchville silt loam, 0-2% slopes	State: Ohio
Landform: Depression/Ditch	NWI/WWI Classification: NA	Wetland ID: W11
Slope (%): 2-4	Local Relief: Concave	Sample Point: SP26
Latitude: 40.74469	Longitude: -81.381907	Community ID: PEM
Longitude: -81.381907	Datum: NAD83	Section:
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input type="checkbox"/> Yes <input type="checkbox"/> No	Range: Dir: --
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **Wetland Ditch**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery 	<p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 2-3" (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 10 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **FcA, Fitchville silt loam, 0-2% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type		Location	
0	12	1	10YR	5/2	90	10YR	5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<ul style="list-style-type: none"> <input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix 	<ul style="list-style-type: none"> <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions 	<ul style="list-style-type: none"> <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **Rock** Depth: **12"**

Hydic Soil Present? Yes No

Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project Wetland ID: W11 Sample Point SP26

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Typha angustifolia</i>	45	Y	OBL
2.	<i>Carex frankii</i>	20	Y	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		65		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
OBL spp.	<u>65</u>	x 1 =	<u>65</u>	
FACW spp.	<u>0</u>	x 2 =	<u>0</u>	
FAC spp.	<u>0</u>	x 3 =	<u>0</u>	
FACU spp.	<u>0</u>	x 4 =	<u>0</u>	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>	
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: FcA, Fitchville silt loam, 0-2% slopes	State: Ohio
Local Relief: Linear	NWI/WWI Classification: NA	Wetland ID: W12
Slope (%): 0-1	Latitude: 40.74488	Sample Point: SP27
Longitude: -81.381798	Datum: NAD83	Community ID: PSS
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **FcA, Fitchville silt loam, 0-2% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	16	1	10YR	5/2	90	5YR	5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histic Epipedon <input type="checkbox"/> 2- Histic Epipedon <input type="checkbox"/> 3- Black Histic <input type="checkbox"/> 4- Hydrogen Sulfide <input type="checkbox"/> 5- Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed)

Type:	Depth:	Hydic Soil Present? <input type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project Wetland ID: W12 Sample Point SP27

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	<i>Comus amomum</i>	35	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		35		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Onoclea sensibilis</i>	10	N	FACW
2.	<i>Carex frankii</i>	20	Y	OBL
3.	<i>Juncus effusus</i>	10	N	FACW
4.	<i>Dichanthelium clandestinum</i>	25	Y	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		65		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Dominance Test Worksheet				
Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A)				
Total Number of Dominant Species Across All Strata: <u>3</u> (B)				
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)				
Prevalence Index Worksheet				
Total % Cover of:				
OBL spp.	<u>20</u>	x 1 =	<u>20</u>	
FACW spp.	<u>55</u>	x 2 =	<u>110</u>	
FAC spp.	<u>25</u>	x 3 =	<u>75</u>	
FACU spp.	<u>0</u>	x 4 =	<u>0</u>	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>	
Total		<u>100</u> (A)	<u>205</u> (B)	
Prevalence Index = B/A = <u>2.050</u>				
Hydrophytic Vegetation Indicators:				
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Rapid Test for Hydrophytic Vegetation		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Dominance Test is > 50%		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Prevalence Index is ≤ 3.0 *		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Morphological Adaptations (Explain) *		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Problem Hydrophytic Vegetation (Explain) *		
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.				
Woody Vines - All woody vines greater than 3.28 ft. in height.				
Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: MsC, Muskingum silt loam, 6-12% slopes	NWI/WWI Classification: NA	Wetland ID: W12
Landform: Side slope	Local Relief: Convex	Sample Point: SP28
Slope (%): 5-7	Latitude: 40.74515	Longitude: -81.381674
	Datum: NAD83	Community ID: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **MsC, Muskingum silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)
			Color (Moist)	%		Color (Moist)	%	Type	Location	
0	12	1	10YR	5/3	40	--	--	--	--	clay loam
0	12	1	10YR	6/6	60	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)
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Indicators for Problematic Soils ¹

<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **Rock** Depth: **12"**

Hydic Soil Present? Yes No

Remarks:

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W12** Sample Point **SP28**

VEGETATION (Species identified in all uppercase are non-native species.)																												
Tree Stratum (Plot size: 30 ft radius)																												
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>																								
1.	--	--	--	--																								
2.	--	--	--	--																								
3.	--	--	--	--																								
4.	--	--	--	--																								
5.	--	--	--	--																								
6.	--	--	--	--																								
7.	--	--	--	--																								
8.	--	--	--	--																								
9.	--	--	--	--																								
10.	--	--	--	--																								
Total Cover =		0																										
Sapling/Shrub Stratum (Plot size: 15 ft radius)																												
1.	--	--	--	--																								
2.	--	--	--	--																								
3.	--	--	--	--																								
4.	--	--	--	--																								
5.	--	--	--	--																								
6.	--	--	--	--																								
7.	--	--	--	--																								
8.	--	--	--	--																								
9.	--	--	--	--																								
10.	--	--	--	--																								
Total Cover =		0																										
Herb Stratum (Plot size: 5 ft radius)																												
1.	<i>Prunella vulgaris</i>	5	N	FACU																								
2.	<i>Solidago canadensis</i>	40	Y	FACU																								
3.	<i>Setaria faberi</i>	55	Y	UPL																								
4.	--	--	--	--																								
5.	--	--	--	--																								
6.	--	--	--	--																								
7.	--	--	--	--																								
8.	--	--	--	--																								
9.	--	--	--	--																								
10.	--	--	--	--																								
11.	--	--	--	--																								
12.	--	--	--	--																								
13.	--	--	--	--																								
14.	--	--	--	--																								
15.	--	--	--	--																								
Total Cover =		100																										
Woody Vine Stratum (Plot size: 30 ft radius)																												
1.	--	--	--	--																								
2.	--	--	--	--																								
3.	--	--	--	--																								
4.	--	--	--	--																								
5.	--	--	--	--																								
Total Cover =		0																										
<p>Dominance Test Worksheet</p> <p>Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>2</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)</p>																												
<p>Prevalence Index Worksheet</p> <p>Total % Cover of:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">OBL spp. <u>0</u></td> <td style="width: 10%; text-align: center;">x</td> <td style="width: 10%; text-align: center;">1 =</td> <td style="width: 10%; text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW spp. <u>0</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;">2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC spp. <u>0</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;">3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU spp. <u>45</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;">4 =</td> <td style="text-align: center;"><u>180</u></td> </tr> <tr> <td>UPL spp. <u>55</u></td> <td style="text-align: center;">x</td> <td style="text-align: center;">5 =</td> <td style="text-align: center;"><u>275</u></td> </tr> <tr> <td colspan="2" style="text-align: right;">Total <u>100</u> (A)</td> <td colspan="2" style="text-align: right;"><u>455</u> (B)</td> </tr> </table> <p>Prevalence Index = B/A = <u>4.550</u></p>					OBL spp. <u>0</u>	x	1 =	<u>0</u>	FACW spp. <u>0</u>	x	2 =	<u>0</u>	FAC spp. <u>0</u>	x	3 =	<u>0</u>	FACU spp. <u>45</u>	x	4 =	<u>180</u>	UPL spp. <u>55</u>	x	5 =	<u>275</u>	Total <u>100</u> (A)		<u>455</u> (B)	
OBL spp. <u>0</u>	x	1 =	<u>0</u>																									
FACW spp. <u>0</u>	x	2 =	<u>0</u>																									
FAC spp. <u>0</u>	x	3 =	<u>0</u>																									
FACU spp. <u>45</u>	x	4 =	<u>180</u>																									
UPL spp. <u>55</u>	x	5 =	<u>275</u>																									
Total <u>100</u> (A)		<u>455</u> (B)																										
<p>Hydrophytic Vegetation Indicators:</p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation</p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Dominance Test is > 50%</p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Prevalence Index is ≤ 3.0 *</p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Morphological Adaptations (Explain) *</p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Problem Hydrophytic Vegetation (Explain) *</p> <p>* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>																												
<p>Definitions of Vegetation Strata:</p> <p>Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.</p> <p>Woody Vines - All woody vines greater than 3.28 ft. in height.</p>																												
<p>Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>																												
Remarks:																												

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: CdB, Canfield silt loam, 2-6% slopes	NWI/WWI Classification: NA	Wetland ID: W13
Landform: Terrace	Local Relief: Linear	Sample Point: SP29
Slope (%): 2-3	Latitude: 40.74570	Longitude: -81.381245
	Datum: NAD83	Community ID: PSS
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 0-1" (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **CdB, Canfield silt loam, 2-6% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type			
0	12	1	10YR	5/2	85	5YR	5/8	15	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histic Epipedon <input type="checkbox"/> 2- Histic Epipedon <input type="checkbox"/> 3- Black Histic <input type="checkbox"/> 4- Hydrogen Sulfide <input type="checkbox"/> 5- Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed) Type: **Rock** Depth: **12"**

Hydic Soil Present? Yes No

Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W13** Sample Point **SP29**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	<i>Cornus amomum</i>	50	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		50		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Typha latifolia</i>	25	Y	OBL
2.	<i>Scirpus cyperinus</i>	10	Y	FACW
3.	<i>Juncus effusus</i>	15	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		50		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Dominance Test Worksheet				
Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A)				
Total Number of Dominant Species Across All Strata: <u>4</u> (B)				
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)				
Prevalence Index Worksheet				
Total % Cover of:				
OBL spp.	<u>25</u>	x 1 =	<u>25</u>	
FACW spp.	<u>75</u>	x 2 =	<u>150</u>	
FAC spp.	<u>0</u>	x 3 =	<u>0</u>	
FACU spp.	<u>0</u>	x 4 =	<u>0</u>	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>	
Total		<u>100</u> (A)	<u>175</u> (B)	
Prevalence Index = B/A = <u>1.750</u>				
Hydrophytic Vegetation Indicators:				
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Rapid Test for Hydrophytic Vegetation		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Dominance Test is > 50%		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Prevalence Index is ≤ 3.0 *		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Morphological Adaptations (Explain) *		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Problem Hydrophytic Vegetation (Explain) *		
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.				
Woody Vines - All woody vines greater than 3.28 ft. in height.				
Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: CdB, Canfield silt loam, 2-6% slopes	State: Ohio
Landform: Side slope	NWI/WWI Classification: NA	Wetland ID: W13
Slope (%): 3-5	Local Relief: Linear	Sample Point: SP30
Latitude: 40.74561	Longitude: -81.381294	Datum: NAD83
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Community ID: Upland
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township:
Remarks:		Range: Dir: --

SUMMARY OF FINDINGS Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: **CdB, Canfield silt loam, 2-6% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description <small>(Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)</small>											
Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	3	1	10YR	5/3	100	--	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present): <input checked="" type="checkbox"/> <input type="checkbox"/> 1- Histic Epipedon <input type="checkbox"/> 2- Histic Epipedon <input type="checkbox"/> 3- Black Histic <input type="checkbox"/> 4- Hydrogen Sulfide <input type="checkbox"/> 5- Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	Indicators for Problematic Soils¹ <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, N) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed) Type: Rock Depth: 3"	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **South Canton-Sunnyside 138 KV Line Rebuild Project** Wetland ID: **W13** Sample Point **SP30**

VEGETATION (Species identified in all uppercase are non-native species.)																								
Tree Stratum (Plot size: 30 ft radius)																								
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>																				
1.	--	--	--	--																				
2.	--	--	--	--																				
3.	--	--	--	--																				
4.	--	--	--	--																				
5.	--	--	--	--																				
6.	--	--	--	--																				
7.	--	--	--	--																				
8.	--	--	--	--																				
9.	--	--	--	--																				
10.	--	--	--	--																				
Total Cover =		0																						
Sapling/Shrub Stratum (Plot size: 15 ft radius)																								
1.	--	--	--	--																				
2.	--	--	--	--																				
3.	--	--	--	--																				
4.	--	--	--	--																				
5.	--	--	--	--																				
6.	--	--	--	--																				
7.	--	--	--	--																				
8.	--	--	--	--																				
9.	--	--	--	--																				
10.	--	--	--	--																				
Total Cover =		0																						
Herb Stratum (Plot size: 5 ft radius)																								
1.	<i>Dichanthelium clandestinum</i>	20	Y	FAC																				
2.	<i>Solidago canadensis</i>	10	Y	FACU																				
3.	--	--	--	--																				
4.	--	--	--	--																				
5.	--	--	--	--																				
6.	--	--	--	--																				
7.	--	--	--	--																				
8.	--	--	--	--																				
9.	--	--	--	--																				
10.	--	--	--	--																				
11.	--	--	--	--																				
12.	--	--	--	--																				
13.	--	--	--	--																				
14.	--	--	--	--																				
15.	--	--	--	--																				
Total Cover =		30																						
Woody Vine Stratum (Plot size: 30 ft radius)																								
1.	--	--	--	--																				
2.	--	--	--	--																				
3.	--	--	--	--																				
4.	--	--	--	--																				
5.	--	--	--	--																				
Total Cover =		0																						
Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																								
Prevalence Index Worksheet Total % Cover of: <table style="margin-left: 20px; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black;">OBL spp. <u>0</u></td> <td style="border-bottom: 1px solid black;">x</td> <td style="border-bottom: 1px solid black;">1 =</td> <td style="border-bottom: 1px solid black;"><u>0</u></td> </tr> <tr> <td style="border-bottom: 1px solid black;">FACW spp. <u>0</u></td> <td style="border-bottom: 1px solid black;">x</td> <td style="border-bottom: 1px solid black;">2 =</td> <td style="border-bottom: 1px solid black;"><u>0</u></td> </tr> <tr> <td style="border-bottom: 1px solid black;">FAC spp. <u>20</u></td> <td style="border-bottom: 1px solid black;">x</td> <td style="border-bottom: 1px solid black;">3 =</td> <td style="border-bottom: 1px solid black;"><u>60</u></td> </tr> <tr> <td style="border-bottom: 1px solid black;">FACU spp. <u>10</u></td> <td style="border-bottom: 1px solid black;">x</td> <td style="border-bottom: 1px solid black;">4 =</td> <td style="border-bottom: 1px solid black;"><u>40</u></td> </tr> <tr> <td style="border-bottom: 1px solid black;">UPL spp. <u>0</u></td> <td style="border-bottom: 1px solid black;">x</td> <td style="border-bottom: 1px solid black;">5 =</td> <td style="border-bottom: 1px solid black;"><u>0</u></td> </tr> </table> Total <u>30</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>3.333</u>					OBL spp. <u>0</u>	x	1 =	<u>0</u>	FACW spp. <u>0</u>	x	2 =	<u>0</u>	FAC spp. <u>20</u>	x	3 =	<u>60</u>	FACU spp. <u>10</u>	x	4 =	<u>40</u>	UPL spp. <u>0</u>	x	5 =	<u>0</u>
OBL spp. <u>0</u>	x	1 =	<u>0</u>																					
FACW spp. <u>0</u>	x	2 =	<u>0</u>																					
FAC spp. <u>20</u>	x	3 =	<u>60</u>																					
FACU spp. <u>10</u>	x	4 =	<u>40</u>																					
UPL spp. <u>0</u>	x	5 =	<u>0</u>																					
Hydrophytic Vegetation Indicators: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Dominance Test is > 50% Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Prevalence Index is ≤ 3.0 * Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Morphological Adaptations (Explain) * Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
Definitions of Vegetation Strata: <p style="margin-left: 40px;">Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.</p> <p style="margin-left: 40px;">Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.</p> <p style="margin-left: 40px;">Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.</p> <p style="margin-left: 40px;">Woody Vines - All woody vines greater than 3.28 ft. in height.</p>																								
Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																								
Remarks:																								

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: WeD, Weikert channery silt loam, 12-18% slopes	NWI/WWI Classification: NA	Wetland ID: W14
Landform: Depression	Local Relief: Concave	Sample Point: SP31
Slope (%): 0	Latitude: 40.72350	Longitude: -81.399765
	Datum: NAD83	Community ID: PEM

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Yes No

Are Vegetation , Soil , or Hydrology naturally problematic? Yes No

Section: _____ Township: _____ Range: _____ Dir: **--**

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 1-4" (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: surface (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: surface (in.)	

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

Remarks: _____

SOILS

Map Unit Name: **WeD, Weikert channery silt loam, 12-18% slopes** Series Drainage Class: _____

Taxonomy (Subgroup): _____

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%	Color (Moist)	%	Type	Location			
0	16	1	10YR	5/2	90	10YR	5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: _____ Depth: _____

Hydric Soil Present? Yes No

Remarks: _____

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project Wetland ID: W14 Sample Point SP31

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	<i>Salix nigra</i>	5	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		5		

Herb Stratum (Plot size: 5 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	<i>Scirpus cyperinus</i>	20	Y	FACW
2.	<i>Phalaris arundinacea</i>	80	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		100		

Woody Vine Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

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

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

Prevalence Index Worksheet

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>5</u>	x 1 =	<u>5</u>
FACW spp.	<u>100</u>	x 2 =	<u>200</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total <u>105</u> (A)		<u>205</u> (B)	
Prevalence Index = B/A = <u>1.952</u>			

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: WeD, Weikert channery silt loam, 12-18% slopes	NWI/WWI Classification: NA	Wetland ID: W14
Landform: Side slope	Local Relief: Linear	Sample Point: SP32
Slope (%): 5-6	Latitude: 40.72359	Longitude: -81.399713
	Datum: NAD83	Community ID: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **WeD, Weikert channery silt loam, 12-18% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	8	1	10YR	4/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, N) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (if Observed) Type: **Rock** Depth: **8"**

Hydic Soil Present? Yes No

Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project** Wetland ID: **W14** Sample Point **SP32**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Rosa multiflora</i>	20	Y	FACU
2.	<i>Rubus allegheniensis</i>	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		25		

Herb Stratum (Plot size: 5 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Arctium minus</i>	10	N	FACU
2.	<i>Setaria faberi</i>	65	Y	UPL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		75		

Woody Vine Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index Worksheet

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>35</u>	x 4 =	<u>140</u>
UPL spp.	<u>65</u>	x 5 =	<u>325</u>
Total <u>100</u> (A)		<u>465</u> (B)	
Prevalence Index = B/A = <u>4.650</u>			

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: CdC, Canfield silt loam, 6-12% slopes	State: Ohio
Local Relief: Linear	NWI/WWI Classification: NA	Wetland ID: W15
Slope (%): 2-4	Latitude: 40.73073	Sample Point: SP33
Longitude: -81.393506	Datum: NAD83	Community ID: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 1 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 10 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **CdC, Canfield silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	16	1	10YR	4/1	80	5Y	2.5/1	10	D	PL	clay loam
--	--	--	--	--	--	5Y	5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, N) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
--	--	---	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed)	Type:	Depth:	Hydic Soil Present? <input type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:			

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project Wetland ID: W15 Sample Point SP33

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Carex frankii</i>	55	Y	OBL
2.	<i>Phalaris arundinacea</i>	20	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		75		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
OBL spp.	<u>55</u>	x 1 =	<u>55</u>	
FACW spp.	<u>20</u>	x 2 =	<u>40</u>	
FAC spp.	<u>0</u>	x 3 =	<u>0</u>	
FACU spp.	<u>0</u>	x 4 =	<u>0</u>	
UPL spp.	<u>0</u>	x 5 =	<u>0</u>	
Remarks:				

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Soil Unit: CdC, Canfield silt loam, 6-12% slopes	State: Ohio
Local Relief: Linear	NWI/WWI Classification: NA	Wetland ID: W15
Slope (%): 1-3	Latitude: 40.73080	Sample Point: SP34
Longitude: -81.393436	Datum: NAD83	Community ID: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 12 (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **CdC, Canfield silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)		
			Color (Moist)	%		Color (Moist)	%	Type		Location	
0	14	1	10YR	4/3	90	10YR	5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 122, 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147)	<input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth: **Hydic Soil Present?** Yes No

Remarks:

Project/Site: **South Canton-Sunnyside 138 kV Line Rebuild Project** Wetland ID: **W15** Sample Point **SP34**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 30 ft radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				
1.	<i>Rubus allegheniensis</i>	15	Y	FACU
2.	<i>Rosa multiflora</i>	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		25		
Herb Stratum (Plot size: 5 ft radius)				
1.	<i>Solidago canadensis</i>	25	Y	FACU
2.	<i>Apocynum cannabinum</i>	10	N	FACU
3.	<i>Schedonorus arundinaceus</i>	40	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		75		
Woody Vine Stratum (Plot size: 30 ft radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		
Remarks:				

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index Worksheet

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>100</u>	x 4 =	<u>400</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>100</u> (A)	<u>400</u> (B)
Prevalence Index = B/A = <u>4.000</u>			

Hydrophytic Vegetation Indicators:

Yes No Rapid Test for Hydrophytic Vegetation

Yes No Dominance Test is > 50%

Yes No Prevalence Index is ≤ 3.0 *

Yes No Morphological Adaptations (Explain) *

Yes No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project	Stantec Project #: 193708517	Date: 03/17/22
Applicant: AEP Ohio Transmission Company, Inc.	Investigator #1: Kate Bomar	County: Stark
Investigator #2: Matt Denzler	Investigator #2: Matt Denzler	State: Ohio
Soil Unit: GfC, Glenford silt loam, 6-12% slopes	NWI/WWI Classification: NA	Wetland ID: N/A
Landform: Side slope	Local Relief: Concave	Sample Point: SP35
Slope (%): 2-4	Latitude: 40.71596	Longitude: -81.406467
	Datum: NAD83	Community ID: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township:
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)
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Field Observations:

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)	

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

Remarks:

SOILS

Map Unit Name: **GfC, Glenford silt loam, 6-12% slopes** Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Texture (e.g. clay, sand, loam)
			Color (Moist)	%		Color (Moist)	%	Type	
0	5	1	10YR	4/2	100	--	--	--	clay loam
5	14	2	10YR	4/3	100	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

<input type="checkbox"/> 1- Histosol <input type="checkbox"/> 2 - Histic Epipedon <input type="checkbox"/> 3 - Black Histic <input type="checkbox"/> 4 - Hydrogen Sulfide <input type="checkbox"/> 5 - Stratified Layers <input type="checkbox"/> 10 - 2 cm Muck (LRR N) <input type="checkbox"/> 11 - Depleted Below Dark Surface <input type="checkbox"/> 12 - Thick Dark Surface <input type="checkbox"/> 1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> 4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, N) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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Restrictive Layer (If Observed) Type: Depth: **Hydic Soil Present?** Yes No

Remarks:

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: South Canton-Sunnyside 138 KV Line Rebuild Project Wetland ID: N/A Sample Point SP35

VEGETATION (Species identified in all uppercase are non-native species.)																																		
Tree Stratum (Plot size: 30 ft radius)																																		
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>																														
1.	--	--	--	--																														
2.	--	--	--	--																														
3.	--	--	--	--																														
4.	--	--	--	--																														
5.	--	--	--	--																														
6.	--	--	--	--																														
7.	--	--	--	--																														
8.	--	--	--	--																														
9.	--	--	--	--																														
10.	--	--	--	--																														
Total Cover =		0																																
Sapling/Shrub Stratum (Plot size: 15 ft radius)																																		
1.	--	--	--	--																														
2.	--	--	--	--																														
3.	--	--	--	--																														
4.	--	--	--	--																														
5.	--	--	--	--																														
6.	--	--	--	--																														
7.	--	--	--	--																														
8.	--	--	--	--																														
9.	--	--	--	--																														
10.	--	--	--	--																														
Total Cover =		0																																
Herb Stratum (Plot size: 5 ft radius)																																		
1.	<i>Elymus virginicus</i>	80	Y	FACW																														
2.	<i>Solidago canadensis</i>	10	N	FACU																														
3.	<i>Dipsacus fullonum</i>	10	N	FACU																														
4.	--	--	--	--																														
5.	--	--	--	--																														
6.	--	--	--	--																														
7.	--	--	--	--																														
8.	--	--	--	--																														
9.	--	--	--	--																														
10.	--	--	--	--																														
11.	--	--	--	--																														
12.	--	--	--	--																														
13.	--	--	--	--																														
14.	--	--	--	--																														
15.	--	--	--	--																														
Total Cover =		100																																
Woody Vine Stratum (Plot size: 30 ft radius)																																		
1.	--	--	--	--																														
2.	--	--	--	--																														
3.	--	--	--	--																														
4.	--	--	--	--																														
5.	--	--	--	--																														
Total Cover =		0																																
Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																		
Prevalence Index Worksheet Total % Cover of: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">OBL spp.</td> <td style="width: 10%; text-align: center;">0</td> <td style="width: 10%;"></td> <td style="width: 10%;">x 1 =</td> <td style="width: 10%; text-align: center;">0</td> </tr> <tr> <td>FACW spp.</td> <td style="text-align: center;">80</td> <td></td> <td>x 2 =</td> <td style="text-align: center;">160</td> </tr> <tr> <td>FAC spp.</td> <td style="text-align: center;">0</td> <td></td> <td>x 3 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACU spp.</td> <td style="text-align: center;">20</td> <td></td> <td>x 4 =</td> <td style="text-align: center;">80</td> </tr> <tr> <td>UPL spp.</td> <td style="text-align: center;">0</td> <td></td> <td>x 5 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total</td> <td style="text-align: center;">100</td> <td>(A)</td> <td style="text-align: center;">240 (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.400</u>					OBL spp.	0		x 1 =	0	FACW spp.	80		x 2 =	160	FAC spp.	0		x 3 =	0	FACU spp.	20		x 4 =	80	UPL spp.	0		x 5 =	0	Total		100	(A)	240 (B)
OBL spp.	0		x 1 =	0																														
FACW spp.	80		x 2 =	160																														
FAC spp.	0		x 3 =	0																														
FACU spp.	20		x 4 =	80																														
UPL spp.	0		x 5 =	0																														
Total		100	(A)	240 (B)																														
Hydrophytic Vegetation Indicators: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Dominance Test is > 50% Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Prevalence Index is ≤ 3.0 * Yes <input type="checkbox"/> No <input type="checkbox"/> Morphological Adaptations (Explain) * Yes <input type="checkbox"/> No <input type="checkbox"/> Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																		
Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall. Woody Vines - All woody vines greater than 3.28 ft. in height.																																		
Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																		
Remarks:																																		

Additional Remarks:

D.2 ORAM DATA FORMS

KBMDW01

Background Information

Name:	Kate Bomar
Date:	3/15/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 1
Vegetation Communit(ies):	PEM
HGM Class(es):	depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.777762°N, -81.355995°W
USGS Quad Name	East Canton
County	Stark County
Township	TION RBW
Section and Subsection	S15
Hydrologic Unit Code	050400010505
Site Visit	3/15/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	EP11A1 - Fairpoint silt loam, 0-8% slopes, reclaimed
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland: <u>Wetland 1</u>	
Wetland Size (acres, hectares): <u>0.03 acres within Project area</u>	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : <u>21</u>	Category: <u>1</u>

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: <u>Wetland 1</u>	Rater(s): <u>KBomar / M Denizler</u>	Date: <u>3/15/2027</u>
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1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9	14
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or double check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

Check all disturbances observed	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input 	<ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input checked="" type="checkbox"/> other <u>reclaimed strip mine</u>

6	20
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | |
|--|--|
| Check all disturbances observed | |
| <ul style="list-style-type: none"> <input type="checkbox"/> mowing <input type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants | <ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment |

20
subtotal this page

Site: Wetland | **Rater(s):** K. Bomar / M. Denzler | **Date:** 3/15/2011

20

subtotal first page

0 20

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1 21

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

21

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input checked="" type="radio"/> NO	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	21	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p><input checked="" type="radio"/> NO</p>	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p><input checked="" type="radio"/> NO</p>	<p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p><input checked="" type="radio"/> NO</p>	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p><input checked="" type="radio"/> YES</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p><input type="radio"/> NO</p>	<p>If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p><input checked="" type="radio"/> NO</p>	<p>Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).</p>
<p>Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<p>YES</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p><input checked="" type="radio"/> NO</p> <p>Wetland is assigned to category as determined by the ORAM.</p>	<p>A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.</p>

Final Category			
Choose one	<input checked="" type="radio"/> Category 1	<input type="radio"/> Category 2	<input type="radio"/> Category 3

End of Ohio Rapid Assessment Method for Wetlands.

KBMDW02

Background Information

Name:	Kate Bomar
Date:	3/15/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 2
Vegetation Community(ies):	PEM
HGM Class(es):	depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.767781°N, -81.360710°W
USGS Quad Name	East Canton
County	Stark County
Township	TION T8W
Section and Subsection	S22
Hydrologic Unit Code	050400010505
Site Visit	3/15/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	CdC, Canfield silt loam, 10-12% slopes
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland: Wetland 2

Wetland Size (acres, hectares): 0.16 acres within Project area

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 21 Category: 1

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: Wetland Rater(s): K. B. ... / M. Denzler Date: 3/15/2022

Metric 1. Wetland Area (size).

7 2
max 6 pts. subtotal

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

1 3
max 14 pts. subtotal

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

9 12
max 30 pts. subtotal

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>strip mine</u>

Metric 4. Habitat Alteration and Development.

6 18
max 20 pts. subtotal

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

18
subtotal this page

Site: Wetland 2 Rater(s): K. Bomar / M. Denzier Date: 3/15/2022

18
subtotal first page

0 18
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 21
max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities
Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

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End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES NO	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	21	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

KBMDW03

Background Information

Name:	Kate Bomar
Date:	3/15/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd, Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 3
Vegetation Community(ies):	PEM
HGM Class(es):	depressional / riverine
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.762657°N, -81.362974°W
USGS Quad Name	East Canton
County	Stark County
Township	T10N R8W
Section and Subsection	822
Hydrologic Unit Code	050400010506
Site Visit	3/15/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	GdC, Gilpin silt loam, 8-15% slopes
Delineation report/map	See Ecological Resources Inventory Report

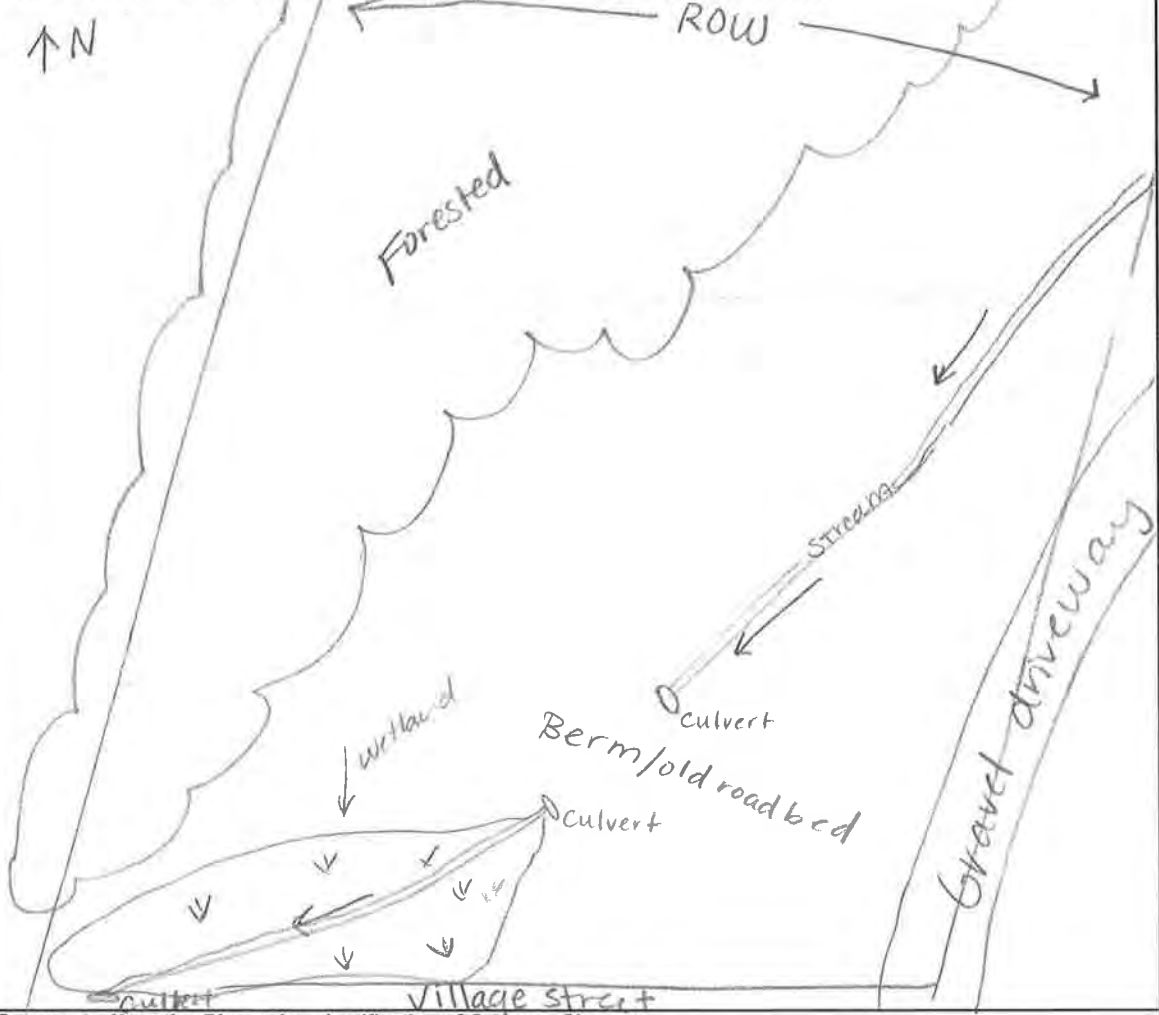
Name of Wetland:

Wetland 3

Wetland Size (acres, hectares):

0.08 acres within Project area

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 23

Category:

1

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

KBMDW03

Site: Wetland 3 Rater(s): K. Bomar / M. Denzler Date: 3/15/2022

21 subtotal first page

0 21 max 10 pts subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-unrestricted hydrology (10) Lake Erie coastal/tributary wetland-restricted hydrology (5) Lake Plain Sand Prairies (Oak Openings) (10) Relict Wet Prairies (10) Known occurrence state/federal threatened or endangered species (10) Significant migratory songbird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 23 max 20 pts subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed Emergent Shrub Forest Mudflats Open water Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5) Moderately high(4) Moderate (3) Moderately low (2) Low (1) None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5) Moderate 25-75% cover (-3) Sparse 5-25% cover (-1) Nearly absent <5% cover (0) Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools

Vegetation Community Cover Scale

Table with 2 columns: Score (0-3) and Description of vegetation cover.

Narrative Description of Vegetation Quality

Table with 2 columns: Quality (low, mod, high) and Narrative Description.

Mudflat and Open Water Class Quality

Table with 2 columns: Score (0-3) and Description of mudflat/open water class quality.

Microtopography Cover Scale

Table with 2 columns: Score (0-3) and Description of microtopography cover scale.

23

End of Quantitative Rating. Complete Categorization Worksheets.

KBMDW03

Site: Wetland 3	Rater(s): K. Borna / mDenzler	Date: 3/15/2022
------------------------	--------------------------------------	------------------------

0	0
max 6 pts	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

0.08 acres

4	4
max 14 pts	subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11	15
max 30 pts	subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3b. Connectivity. Score all that apply

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

<ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) 	<p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input
<ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input type="checkbox"/> filling/grading <input checked="" type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other _____ 	

6	21
max 20 pts	subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

<ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) 	<p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> mowing <input type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants
<ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment 	

21
subtotal this page

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	23	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>NO</p> <p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>NO</p> <p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>NO</p> <p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p>YES</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO</p> <p>If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p>NO</p> <p>Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).</p>
<p>Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<p>YES</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO</p> <p>Wetland is assigned to category as determined by the ORAM.</p> <p>A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.</p>

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

KBMDW04

Background Information

Name:	Kate Bomar
Date:	3/15/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd, Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 4
Vegetation Community(ies):	PEM/PSS
HGM Class(es):	depressional/riverine
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.761703°N, -81.363449°W
USGS Quad Name	East Canton
County	Stark County
Township	TON R2W
Section and Subsection	S22
Hydrologic Unit Code	050400010500
Site Visit	3/15/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	EcA, Fitchville silt loam, 0-2% slopes
Delineation report/map	See Ecological Resources Inventory Report

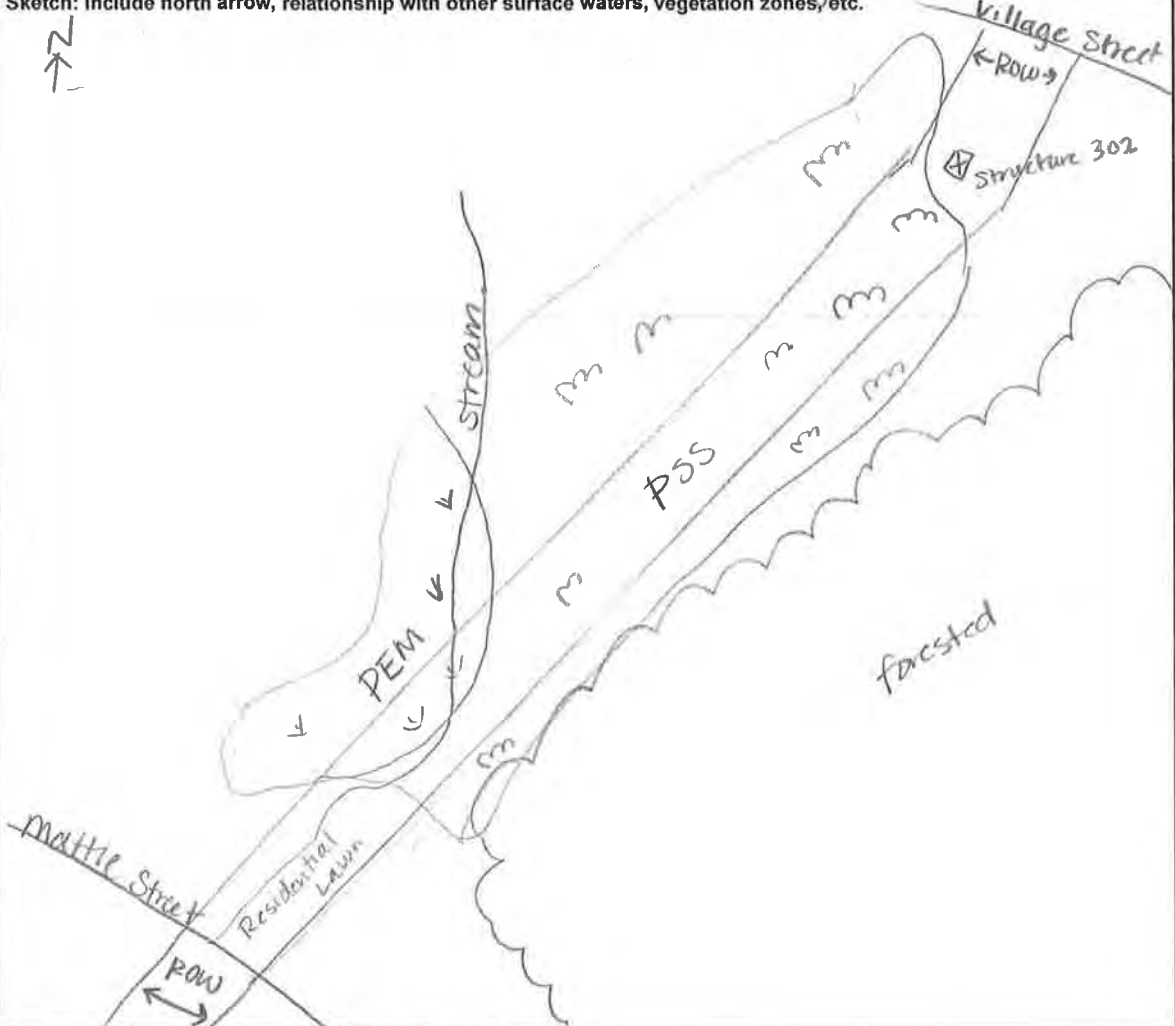
Name of Wetland:

Wetland 4

Wetland Size (acres, hectares):

1.90 acres within Project area

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score :

4.1

Category:

modified 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

W04

Site: Wetland 4 Rater(s): K. Bomar/m. Denzler Date: 3/15/22

3	3
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

5	8
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13	21
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | |
|---|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input | <ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input type="checkbox"/> filling/grading <input checked="" type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other |
|---|---|---|

13	34
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | |
|--|---|--|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input type="checkbox"/> mowing <input type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants | <ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment |
|--|---|--|

34
subtotal this page

W04

Site: Wetland 4 Rater(s): K. Bomar / M. Denzler Date: 3/15/2022

34

subtotal first page

0 34

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

7 41

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

2
1

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

3

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

0

6d. Microtopography

Score all present using 0 to 3 scale

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

1

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

41

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	13	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	7	
	TOTAL SCORE	41	Category based on score breakpoints <i>modified 2</i>

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>NO</p> <p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>NO</p> <p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>NO</p> <p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p>YES</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO</p> <p>If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p>NO</p> <p>Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).</p>
<p>Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<p>YES</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO</p> <p>Wetland is assigned to category as determined by the ORAM.</p> <p>A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.</p>

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

KBMDW05

Background Information

Name:	Kate Bomar
Date:	3/16/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 5
Vegetation Communit(ies):	PEM/PSS
HGM Class(es):	riverine
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.747931°N, -81.378757°W
USGS Quad Name	Bolivar
County	Stark County
Township	TION R&W
Section and Subsection	S28
Hydrologic Unit Code	050400010506
Site Visit	3/16/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	C&C, canfield silt loam, 6-12% slopes
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland:

Wetland 5

Wetland Size (acres, hectares):

0.15 acres within Project area

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 3

Category:

2 (1 or 2 gray zone)

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<u>NO</u> Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<u>NO</u> Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	<u>NO</u> Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	<u>NO</u> Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: Wetland 5 Rater(s): V. Bona, M. Denzler Date: 3/16/2022

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

5	6
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12	18
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.

<input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1)	Check all disturbances observed <input checked="" type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input <input type="checkbox"/> point source (nonstormwater) <input type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other <u>culvert</u>
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8	26
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1)	Check all disturbances observed <input type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment
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20
subtotal this page

Site: Wetland 5 Rater(s): K. Boman / M. Dendler Date: 3/16/2022

26
subtotal first page

0 26
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland See Question 1 Qualitative Rating (-10)

5 31
max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

31

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	5	
	TOTAL SCORE	31	Category based on score breakpoints 1 or 2 gray zone (2)

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES Wetland is categorized as a Category 3 wetland</p>	<p>NO Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM</p>
<p>Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES Wetland should be evaluated for possible Category 3 status</p>	<p>NO Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.</p>
<p>Did you answer "Yes" to Narrative Rating No. 5</p>	<p>YES Wetland is categorized as a Category 1 wetland</p>	<p>NO Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p>YES Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p>NO Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).</p>
<p>Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<p>YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO Wetland is assigned to category as determined by the ORAM. A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.</p>

Final Category

Choose one	Category 1	Category 2	Category 3
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(A large circle is drawn around the "Category 2" option in the original image.)

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Kate Bomar
Date:	3/16/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd, Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 6
Vegetation Community(ies):	PUB
HGM Class(es):	depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.738382°N, -81.387281°W
USGS Quad Name	Bolivar
County	Stark County
Township	T10N R8W
Section and Subsection	S33
Hydrologic Unit Code	050400010506
Site Visit	3/16/2022
National Wetland Inventory Map	PUB6
Ohio Wetland Inventory Map	N/A
Soil Survey	BhT B1, Bethesda channery loam, 0-8% slopes, unreclaimed
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland: Wetland 6

Wetland Size (acres, hectares): 0.07 acres within Project area

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

PUB wetland at site of former strip mine

Final score : 26 Category: 1

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: Wetland Rater(s): K. Bomar / M. Beneler Date: 3/11/22

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10	15
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | |
|---|---|--|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other <u>old strip mine</u> </td> </tr> </table> | <ul style="list-style-type: none"> <input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input | <ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other <u>old strip mine</u> |
| <ul style="list-style-type: none"> <input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input | <ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other <u>old strip mine</u> | | |

0	21
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | |
|---|---|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input type="checkbox"/> Recovering (3) <input checked="" type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <input type="checkbox"/> mowing <input type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input checked="" type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment </td> </tr> </table> | <ul style="list-style-type: none"> <input type="checkbox"/> mowing <input type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input checked="" type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants | <ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment |
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21
subtotal this page

Site: Wetland 6 **Rater(s):** K. Boman / M. Denzler **Date:** 3/10/2022

21
subtotal first page

0 21
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland See Question 1 Qualitative Rating (-10)

5 26
max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

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End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input checked="" type="radio"/> NO	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	5	
	TOTAL SCORE	26	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate</i> OR <i>superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one	Category 1	Category 2	Category 3
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End of Ohio Rapid Assessment Method for Wetlands.

KBMDW07

Background Information

Name:	Kate Bomar
Date:	3/16/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 7
Vegetation Community(ies):	PEM
HGM Class(es):	slope
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40,739197°N, -81,386535°W
USGS Quad Name	Bolivar
County	Stark County
Township	T10N R8W
Section and Subsection	833
Hydrologic Unit Code	050400010500
Site Visit	3/16/2022
National Wetland Inventory Map	
Ohio Wetland Inventory Map	N/A
Soil Survey	W1B wellston silt loam, 3-8% slopes
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland:

Wetland 7

Wetland Size (acres, hectares):

0.01 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 27

Category:

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

KBMDW07

Site: Wetland 7 Rater(s): K. Bomar / M. Denzler Date: 8/11/22

0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

9	9
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11	20
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | |
|---|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input | <ul style="list-style-type: none"> <input checked="" type="checkbox"/> point source (nonstormwater) filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other |
|---|---|---|

5	25
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | |
|--|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment |
|--|--|

25
subtotal this page

KBRNDWBT

Site: Wetland 7 Rater(s): K. Bonnar, M. Bender Date: 3/16/20

25
subtotal first page

0 25
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 27
max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input checked="" type="radio"/> NO	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	2	
	TOTAL SCORE	27	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>NO</p> <p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>NO</p> <p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>NO</p> <p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p>YES</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO</p> <p>If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p>NO</p> <p>Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).</p>
<p>Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<p>YES</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO</p> <p>Wetland is assigned to category as determined by the ORAM.</p> <p>A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.</p>

Final Category

Choose one	Category 1	Category 2	Category 3
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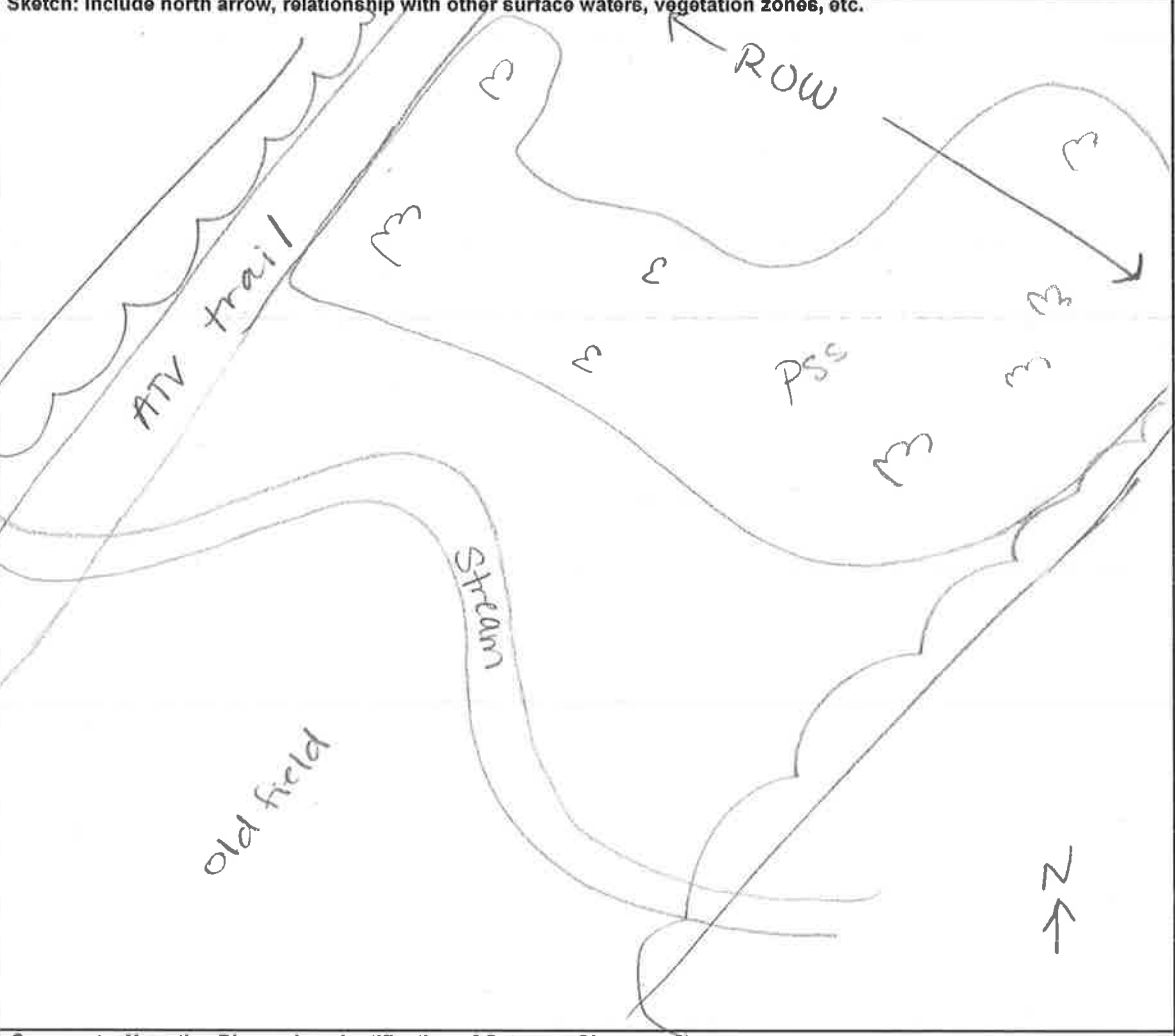
End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Kate Bomar
Date:	3/16/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd, Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 8
Vegetation Community(ies):	PSS
HGM Class(es):	slope
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.741390°N, -81.384662°W
USGS Quad Name	Bolivar
County	Stark County
Township	TION RBW
Section and Subsection	533
Hydrologic Unit Code	050.400010506
Site Visit	3/16/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	FcA, Fitchville silt loam, 0-2% slopes
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland: Wetland 8

Wetland Size (acres, hectares): 0.09 acres



Comments, Narrative Discussion, Justification of Category Changes:

Final score: 33 Category: 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

W08

Site: Wetland B Rater(s): K. Bomar, M. Benzler Date: 7/10/22

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

9	10
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12	22
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.

<p>None or none apparent (12)</p> <p>Recovered (7)</p> <p><input checked="" type="checkbox"/> Recovering (3)</p> <p>Recent or no recovery (1)</p>	<p>Check all disturbances observed</p> <p><input type="checkbox"/> ditch</p> <p><input type="checkbox"/> tile</p> <p><input type="checkbox"/> dike</p> <p><input type="checkbox"/> weir</p> <p><input type="checkbox"/> stormwater input</p>
<p>point source (nonstormwater)</p> <p><input checked="" type="checkbox"/> filling/grading</p> <p><input type="checkbox"/> road bed/RR track</p> <p><input type="checkbox"/> dredging</p> <p><input type="checkbox"/> other</p>	

7	29
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.

<p>None or none apparent (9)</p> <p>Recovered (6)</p> <p><input checked="" type="checkbox"/> Recovering (3)</p> <p>Recent or no recovery (1)</p>	<p>Check all disturbances observed</p> <p><input type="checkbox"/> mowing</p> <p><input checked="" type="checkbox"/> grazing</p> <p><input type="checkbox"/> clearcutting</p> <p><input type="checkbox"/> selective cutting</p> <p><input type="checkbox"/> woody debris removal</p> <p><input type="checkbox"/> toxic pollutants</p>
<p>shrub/sapling removal</p> <p>herbaceous/aquatic bed removal</p> <p>sedimentation</p> <p>dredging</p> <p>farming</p> <p>nutrient enrichment</p>	

29
subtotal this page

Site: Wetland B **Rater(s):** K. Boma / M. Denzler **Date:** 3/10/2022

29

subtotal first page

0	29
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4	29
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

33

End of Quantitative Rating. Complete Categorization Worksheets.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES</p> <p>Wetland is categorized as a Category 3 wetland</p>	<input checked="" type="radio"/> NO	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<input checked="" type="radio"/> NO	<p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES</p> <p>Wetland is categorized as a Category 1 wetland</p>	<input checked="" type="radio"/> NO	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p><input checked="" type="radio"/> YES</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<input type="radio"/> NO	<p>If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<input checked="" type="radio"/> NO	<p>Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).</p>
<p>Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<p>YES</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<input checked="" type="radio"/> NO	<p>A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.</p>

Final Category			
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	4	
	TOTAL SCORE	33	Category based on score breakpoints <i>1 or 2 gray zone</i>

Complete Wetland Categorization Worksheet.

KBMDW09

Background Information

Name:	Kate Bomar
Date:	3/10/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 9
Vegetation Community(ies):	PEM
HGM Class(es):	depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.742510°N, -81.383902°W
USGS Quad Name	Bolivar
County	Stark County
Township	T10N R6W
Section and Subsection	S33
Hydrologic Unit Code	05040001
Site Visit	3/10/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	BoC - Bogart silt loam, 6-12% slopes
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland: <u>Wetland 9</u>	
Wetland Size (acres, hectares): <u>0.15 acres within Project area</u>	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : <u>21</u>	Category: <u>1</u>

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: Wetland 9 Rater(s): K. Boman Date: 3 10 2022

1	1
max 6 pts	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20 2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

5	1
max 14 pts	subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12	18
max 30 pts	subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

5	23
max 20 pts	subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

23
subtotal this page

KBMIDW09

Site: Wetland 9 Rater(s): K. Bomax / M. Denzler Date: 3/16/22

23
subtotal first page

0 23
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2 21
max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities
Score all present using 0 to 3 scale

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

21

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input checked="" type="radio"/> NO	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersed, microtopography	-2	
	TOTAL SCORE	21	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>NO</p> <p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>NO</p> <p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>NO</p> <p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p>YES</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO</p> <p>If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p>NO</p> <p>Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).</p>
<p>Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<p>YES</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO</p> <p>Wetland is assigned to category as determined by the ORAM.</p> <p>A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.</p>

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Kate Bomar
Date:	3/10/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 10
Vegetation Community(ies):	PEM
HGM Class(es):	depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.744164°N, -81.382512°W
USGS Quad Name	Bolivar
County	Stark County
Township	TION R9W
Section and Subsection	S28
Hydrologic Unit Code	050400010506
Site Visit	3/10/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	M5C, Muskingum silt loam 6-12% slopes
Delineation report/map	See Ecological Resources Inventory Report

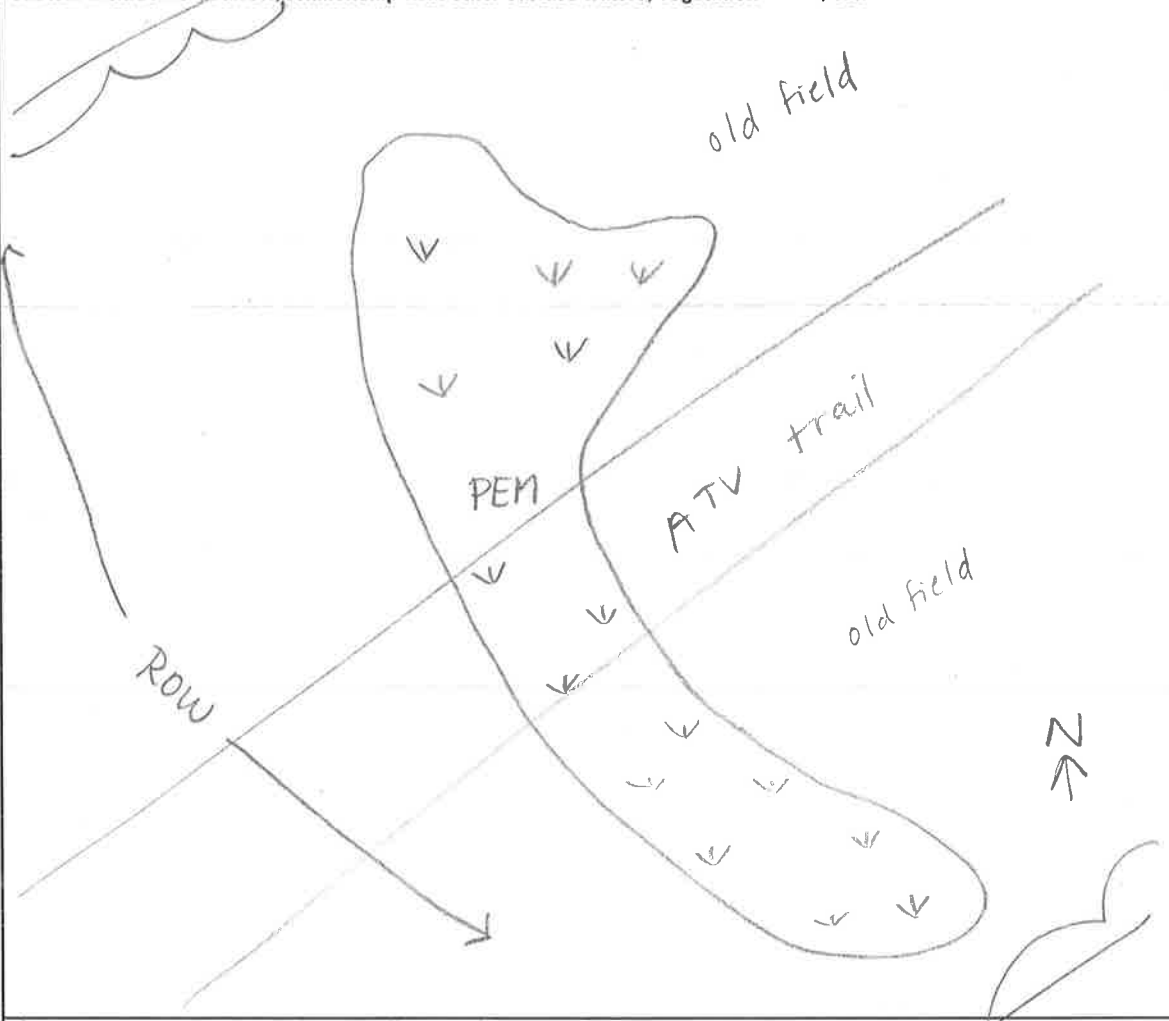
Name of Wetland:

Wetland 10

Wetland Size (acres, hectares):

0.02 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 20

Category:

1

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

KBMDW10

Site: Wetland 10	Rater(s): K. Boma / M. Denzler	Date: 3/16/22
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

8	8
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction (1)

9	17
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | |
|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input |
|---|---|
- | |
|---|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> point source (nonstormwater) <input type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other |
|---|

6	23
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | |
|--|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants |
|--|--|
- | |
|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment |
|--|

23
subtotal this page

KBMDW10

Site: Wetland 10 Rater(s): K. Bomar / M. Denzler Date: 3/16/2022

23
subtotal first page

0 23
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 20
max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities
Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES <input type="radio"/> NO <input checked="" type="radio"/></p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES <input type="radio"/> NO <input checked="" type="radio"/></p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES <input type="radio"/> NO <input checked="" type="radio"/></p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p>YES <input checked="" type="radio"/> NO <input type="radio"/></p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES <input type="radio"/> NO <input checked="" type="radio"/></p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p>Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).</p>
<p>Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<p>YES <input type="radio"/> NO <input checked="" type="radio"/></p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.</p>

Final Category

Choose one	<input checked="" type="radio"/> Category 1	<input type="radio"/> Category 2	<input type="radio"/> Category 3
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End of Ohio Rapid Assessment Method for Wetlands.

KBMDW11

Background Information

Name:	Kate Bomar
Date:	3/17/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 11
Vegetation Community(ies):	PEM
HGM Class(es):	depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.744691°N, -81.381907°W
USGS Quad Name	Bolivar
County	Stark County
Township	T10N R6W
Section and Subsection	S28
Hydrologic Unit Code	050400010506
Site Visit	3/17/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	FcA, Fitchville silt loam, 0-2% slopes
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland:

Wetland II

Wetland Size (acres, hectares):

0.04 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 28

Category:

1

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: <u>Wetland</u> <u>11</u>	Rater(s): <u>K. Bonny</u> <u>M. Denzler</u>	Date: <u>3/17/2021</u>
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

9	9
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11	20
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

6	26
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

26
subtotal this page

W11

Site: <u>Wetland</u>	Rater(s): <u>K. Borman / M. Denzler</u>	Date: <u>3/17/2022</u>
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20
subtotal first page

0	20
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2	28
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES NO	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	2	
	TOTAL SCORE	28	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM. A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

KBMDW12

Background Information

Name:	Kate Bomar
Date:	3/17/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd, Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 12
Vegetation Community(ies):	PSS
HGM Class(es):	slope
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.744877°N, -81.381796°W
USGS Quad Name	Bolivar
County	Stark County
Township	TION ROW
Section and Subsection	528
Hydrologic Unit Code	05040001
Site Visit	3/17/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	FcA, Fitchville silt loam, 0-2% slopes
Delineation report/map	See Ecological Resources Inventory Report

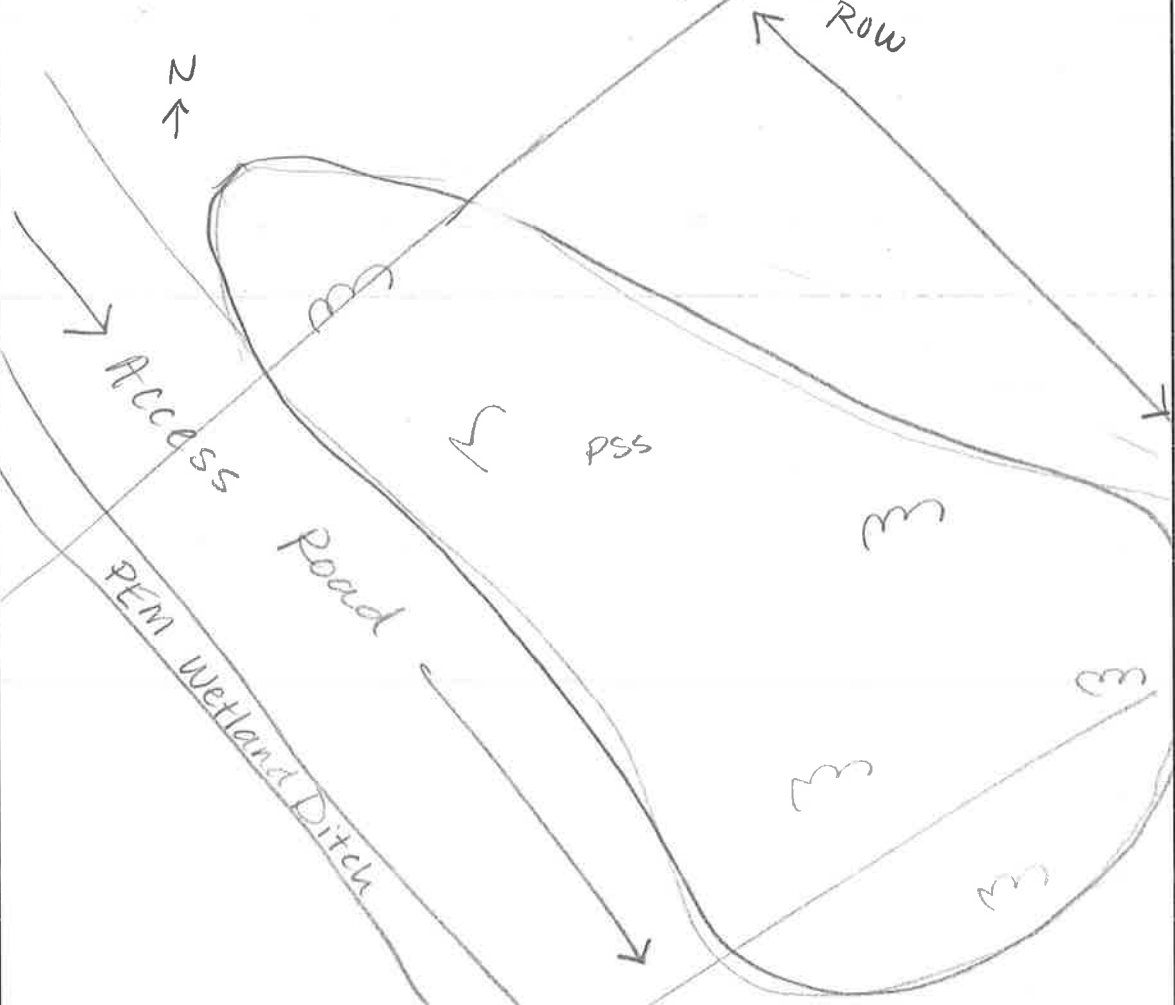
Name of Wetland:

Wetland 12

Wetland Size (acres, hectares):

0.25 acres within Project area

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc:



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 27

Category:

1

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: Wetland 12 Rater(s): K. Bonar / M. Denyer Date: 3/17/2022

1 1 max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)

7 8 max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3) HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

8 16 max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply. High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3b. Connectivity. Score all that apply. 100 year floodplain (1) Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1) Part of riparian or upland corridor (1) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) <0.4m (<15.7in) (1) 3d. Duration inundation/saturation. Score one or dbl check. Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) 3e. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)

Check all disturbances observed ditch tile dike weir stormwater input point source (nonstormwater) filling/grading road bed/RR track dredging other

8 24 max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)

Check all disturbances observed mowing grazing clearcutting selective cutting woody debris removal toxic pollutants shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment

24 subtotal this page

K3BMDW12

Site: <u>Wetland 12</u>	Rater(s): <u>K. Bornar / M. Denzler</u>	Date: <u>3/17/22</u>
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24

subtotal first page

0	24
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3	27
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	27	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one	Category 1	Category 2	Category 3
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○

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Kate Bomar
Date:	3/17/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 13
Vegetation Community(ies):	PSS
HGM Class(es):	slope
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.745700°N, -81.381245°W
USGS Quad Name	Bolivar
County	Stark County
Township	T10N R8W
Section and Subsection	S28
Hydrologic Unit Code	05040001
Site Visit	3/17/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	FCA, Fitchville silt loam, 0-2% slopes
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland:

Wetland 13

Wetland Size (acres, hectares):

0.09 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 28

Category: 1

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<u>NO</u> Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<u>NO</u> Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	<u>NO</u> Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	<u>NO</u> Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: Wetland 13	Rater(s): K.Bomar	Date: 3/17/2012
-------------------------	--------------------------	------------------------

0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3	3
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction (1)

13	10
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.

Check all disturbances observed	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input 	<ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other

7	23
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.

Check all disturbances observed	
<ul style="list-style-type: none"> <input type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants 	<ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment

23
subtotal this page

Site: Wetland 13 Rater(s): K. Bomar / M. Denzler Date: 3/7/2012

23
subtotal first page

0 23
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5 28
max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- 1 Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- 2 Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- 1 Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	5	
	TOTAL SCORE	28	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

KBMDW14

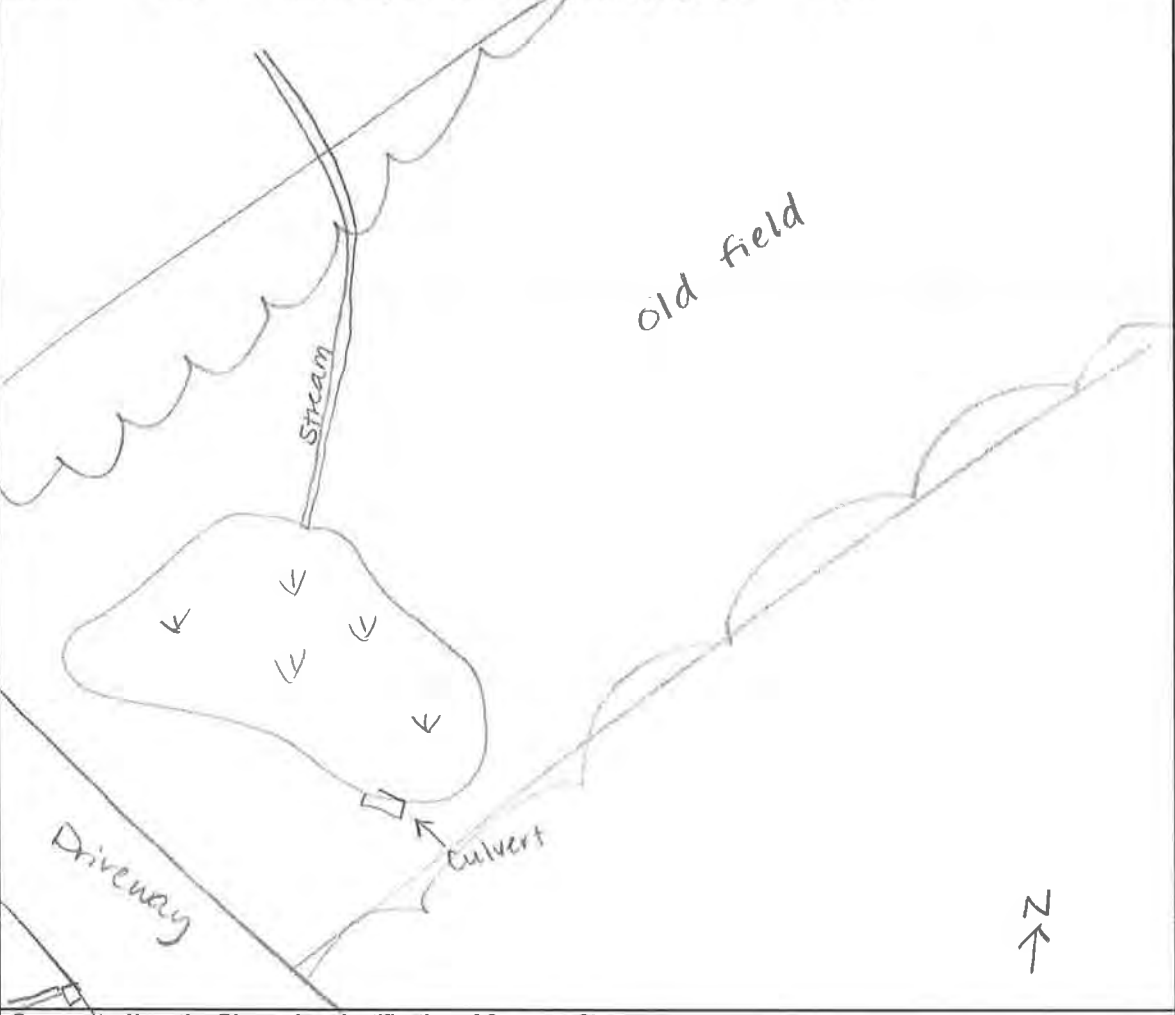
Background Information

Name:	Kate Bomar
Date:	3/17/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 14
Vegetation Community(ies):	PEM
HGM Class(es):	depressional/riverine
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.723497°N, -81.399765°W
USGS Quad Name	Bolivar
County	Stark County
Township	T9N R8W
Section and Subsection	S5
Hydrologic Unit Code	050400010607
Site Visit	3/17/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	Wed. Weikert channery silt loam, 12-18% slopes
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland: Wetland 14

Wetland Size (acres, hectares): 0.02 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 22

Category: 1

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: Wetland 14	Rater(s): K. Bomar / M. Denzler	Date: 3/17/22
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0	0
max 6 pts	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3	3
max 14 pts	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12	15
max 30 pts	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input	<input type="checkbox"/> point source (nonstormwater) filling/grading <input checked="" type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other <u>Culvert</u>

7	28
max 20 pts	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.

Check all disturbances observed	
<input type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants	<input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment

28
subtotal this page

KBMDW14

Site: Wetland 14	Rater(s): K. Bomar	Date: 3/17/2022
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22

subtotal first page

0	22
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0	22
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

-3

22

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input checked="" type="radio"/> NO	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	0	
	TOTAL SCORE	22	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

KBMDW15

Background Information

Name:	Kate Bomar
Date:	3/17/2022
Affiliation:	Stantec Consulting Services, Inc.
Address:	11687 Lebanon Rd. Cincinnati, OH 45241
Phone Number:	513-842-8207
e-mail address:	Kate.bomar@stantec.com
Name of Wetland:	Wetland 15
Vegetation Communit(ies):	PEM
HGM Class(es):	slope
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate	40.730729°N, -81.393506°W
USGS Quad Name	Bolivar
County	Stark County
Township	T10 N R8W
Section and Subsection	S32
Hydrologic Unit Code	050400010607
Site Visit	3/17/2022
National Wetland Inventory Map	N/A
Ohio Wetland Inventory Map	N/A
Soil Survey	CdC, Canfield silt loam, 10-12% slopes
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland:

Wetland 15

Wetland Size (acres, hectares):

0.01 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 24

Category:

1

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	✓	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<input checked="" type="radio"/> NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<input checked="" type="radio"/> NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	<input checked="" type="radio"/> NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	<input checked="" type="radio"/> NO Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

Site: Wetland 15 Rater(s): K. Bonar / M. Denzler Date: 3/17/2022

Metric 1. Wetland Area (size).

0	0
max 6 pts.	subtotal

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

8	8
max 14 pts.	subtotal

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

9	17
max 30 pts.	subtotal

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)

- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | |
|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input |
|---|---|

Metric 4. Habitat Alteration and Development.

6	23
max 20 pts.	subtotal

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)

- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)

- 4c. Habitat alteration. Score one or double check and average.
- | | | | |
|--|---|--|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <input type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input checked="" type="checkbox"/> toxic pollutants </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment </td> </tr> </table> | <ul style="list-style-type: none"> <input type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input checked="" type="checkbox"/> toxic pollutants | <ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment |
| <ul style="list-style-type: none"> <input type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input checked="" type="checkbox"/> toxic pollutants | <ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment | | |

23
subtotal this page

KBMDWIS

Site: <u>Wetland 15</u>	Rater(s): <u>K. Bomar / M. Denzler</u>	Date: <u>3/17/22</u>
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23
subtotal first page

0	23
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1	24
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

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End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	6	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	24	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>NO</p>	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>NO</p>	<p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>NO</p>	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p>YES</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO</p>	<p>If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p>NO</p>	<p>Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).</p>
<p>Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<p>YES</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO</p> <p>Wetland is assigned to category as determined by the ORAM.</p>	<p>A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.</p>

Final Category

Choose one	Category 1	Category 2	Category 3
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End of Ohio Rapid Assessment Method for Wetlands.

D.3 HHEI/QHEI DATA FORMS



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 40.5

Stream & Location: Stream 1 / Minishillen Creek South Canton-Sunnyside RM: Stark County, Ohio **Date:** 3 / 14 / 2022

River Code: - **SCORET #:** - **Lat./ Long.:** 40.753117N 81.371776W **Scorers Full Name & Affiliation:** Kate Bomar / Starline **Office verified location:**

1] SUBSTRATE Check **ONLY** Two substrate **TYPE** BOXES; estimate % or note every type present

BEST TYPES	POOL RIFFLE	OTHER TYPES	POOL RIFFLE	ORIGIN	QUALITY	Substrate 3 Maximum 20
<input type="checkbox"/> BLDR /SLABS [10]	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> HEAVY [-2]	
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> TILLS [1]	<input checked="" type="checkbox"/> MODERATE [-1]	
<input type="checkbox"/> COBBLE [8]	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> MUCK [2]	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> NORMAL [0]	
<input type="checkbox"/> GRAVEL [7]	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> SILT [2]	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> FREE [1]	
<input type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]	
<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> <input type="checkbox"/>	(Score natural substrates; ignore sludge from point-sources)		<input type="checkbox"/> RIP/RAP [0]	<input checked="" type="checkbox"/> MODERATE [-1]	
NUMBER OF BEST TYPES:	<input type="checkbox"/> 4 or more [2]			<input type="checkbox"/> LACUSTURINE [0]	<input type="checkbox"/> NORMAL [0]	
Comments	<input checked="" type="checkbox"/> 3 or less [0]			<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]	
				<input type="checkbox"/> COAL FINES [-2]		

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70cm [2]	<input type="checkbox"/> OXBOWS, BACKWATERS [1]	AMOUNT
<input checked="" type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	Check ONE (Or 2 & average)
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> EXTENSIVE >75% [11]
<input type="checkbox"/> ROOTMATS [1]			<input type="checkbox"/> MODERATE 25-75% [7]
			<input checked="" type="checkbox"/> SPARSE 5-<25% [3]
			<input type="checkbox"/> NEARLY ABSENT <5% [1]
Comments			Channel Maximum 20 6

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	
<input checked="" type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	
<input type="checkbox"/> NONE [1]	<input checked="" type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		
Comments				

Channel
Maximum 20 8

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for **EACH BANK** (Or 2 per bank & average)

EROSION	RIPARIAN WIDTH	FLOOD PLAIN QUALITY
<input type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]
<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]
<input type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]
	<input checked="" type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]
	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]
Comments		

Riparian
Maximum 10 4.5

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH	CHANNEL WIDTH	CURRENT VELOCITY	Recreation Potential Primary Contact Secondary Contact (circle one and comment on back)
Check ONE (ONLY!)	Check ONE (Or 2 & average)	Check ALL that apply	
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]	Pool / Current Maximum 12 6
<input checked="" type="checkbox"/> 0.7-<1m [4]	<input checked="" type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> SLOW [1]	
<input type="checkbox"/> 0.4-<0.7m [2]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [0]	<input type="checkbox"/> VERY FAST [1]	
<input type="checkbox"/> 0.2-<0.4m [1]		<input type="checkbox"/> INTERSTITIAL [-1]	
<input type="checkbox"/> < 0.2m [0]		<input type="checkbox"/> FAST [1]	
		<input checked="" type="checkbox"/> MODERATE [1]	
		<input type="checkbox"/> INTERMITTENT [-2]	
		<input type="checkbox"/> EDDIES [1]	

Riffle / Run
Maximum 8 3

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). NO RIFFLE [metric=0]

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS
<input checked="" type="checkbox"/> BEST AREAS > 10cm [2]	<input checked="" type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> BEST AREAS 5-10cm [1]	<input type="checkbox"/> MAXIMUM < 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input checked="" type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
Comments			Gradient Maximum 10 10

6] GRADIENT (0.21 ft/mi) VERY LOW - LOW [2-4] **%POOL:** 10 **%GLIDE:** 5

DRAINAGE AREA (171 mi²) MODERATE [6-10] **%RUN:** 80 **%RIFFLE:** 5

HIGH - VERY HIGH [10-6]

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

A) SAMPLED REACH

Check ALL that apply

- | METHOD | STAGE |
|---|--|
| <input type="checkbox"/> BOAT | 1st sample pass 2nd |
| <input checked="" type="checkbox"/> WADE | <input checked="" type="checkbox"/> HIGH |
| <input checked="" type="checkbox"/> L. LINE | <input type="checkbox"/> UP |
| <input type="checkbox"/> OTHER | <input type="checkbox"/> NORMAL |
| | <input type="checkbox"/> LOW |
| | <input type="checkbox"/> DRY |

- DISTANCE**
- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER
- _____ meters

- CANOPY**
- 1st pass _____ cm
- 2nd pass _____ cm
- > 85%- OPEN
- 55%-<85%
- 30%-<55%
- 10%-<30%
- <10%- CLOSED

- CLARITY**
- 1st sample pass 2nd
- < 20 cm
- 20-<40 cm
- 40-70 cm
- > 70 cm/ CTB
- SECCHI DEPTH

- B) AESTHETICS**
- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

- D) MAINTENANCE**
- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMoured / SLUMPS
- ISLANDS / SCoured
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

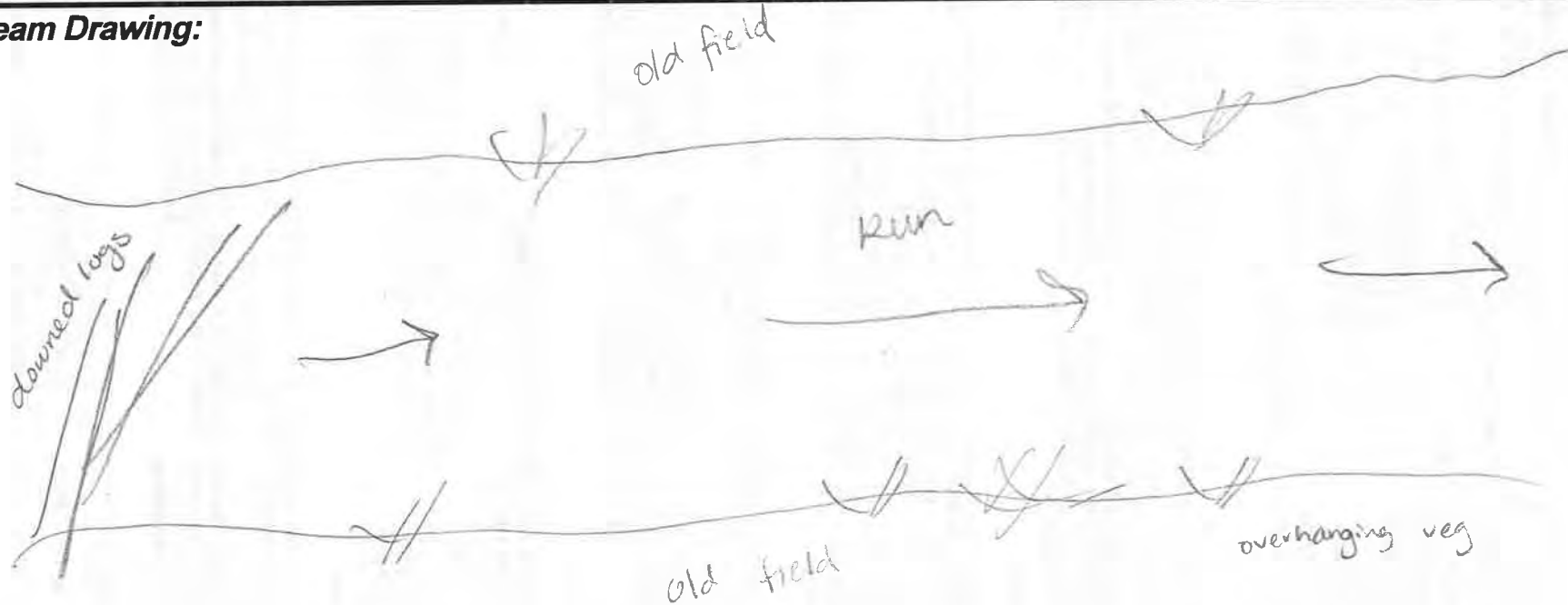
- E) ISSUES**
- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H₂O / TILE / H₂O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

- F) MEASUREMENTS**
- \bar{x} width
- \bar{x} depth
- max. depth
- \bar{x} bankfull width
- bankfull \bar{x} depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio
- Legacy Tree:

DHWm = 67'

BF = 75'

Stream Drawing:



Ohio Primary Headwater Habitat Field Evaluation Form
Ohio Environmental Protection Agency
HHEI Score (sum of metrics 1+2+3) **15**

SITE NAME/LOCATION South Canton - Sunnyside 138 KV Line Rebuild Project
 SITE NUMBER Stream 2 RIVER BASIN Muskingum RIVER CODE DRAINAGE AREA (mi²) 40.1mi²
 LENGTH OF STREAM REACH (ft) 57' LAT 40.753209°N LONG -81.371887°W RIVER MILE
 DATE 3/14/22 SCORER KLB COMMENTS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table border="1"> <thead> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> Bldr Slabs [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> SILT [3 pt]</td> <td><u>90</u></td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td><u>10</u></td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 3 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>		TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> Bldr Slabs [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	<u>90</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>10</u>	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points Substrate Max = 40 5 A + B</p>
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<p>2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</p> <table border="1"> <tbody> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input checked="" type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </tbody> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 5</p>		<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input checked="" type="checkbox"/> < 5 cm [5pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p>Pool Depth Max = 30 5</p>																						
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<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):</p> <table border="1"> <tbody> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </tbody> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 1</p>		<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max=30 5</p>																						
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This information must also be completed

RIPIARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

BP
3'
OHWHM
1'

RIPIARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS ephemeral - rain/snow melt

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input checked="" type="checkbox"/> Flat (0.5 %/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 %/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 %/100 ft)
---	---	--	---	---

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimishillen Creek Distance from Evaluated Stream < 1 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Canton East NRCS Soil Map Page: / NRCS Soil Map Stream Order: /
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2022 Quantity: 0.23"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) / Dissolved Oxygen (mg/l) / pH (S.U.) / Conductivity (umhos/cm) /

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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

Nimishillen Creek





Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

45

SITE NAME/LOCATION South Canton Sunnyside 138 KV Line Rebuild Project
 SITE NUMBER stream 3 RIVER BASIN Muckinsaw RIVER CODE DRAINAGE AREA (mi²) < 1 mi²
 LENGTH OF STREAM REACH (ft) 176' LAT 40.773794°N LONG -81.357920°W RIVER MILE
 DATE 3/15/2021 SCORER KLB COMMENTS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B		HHEI Metric Points Substrate Max = 40 15 A + B																											
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COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <u>9</u>																													
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):		Bankfull Width Max=30 15																											
<table border="0"> <tr><td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td><td><input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td></tr> <tr><td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td><td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td></tr> <tr><td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td><td></td></tr> </table>			<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																						
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COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <u>1.5</u>																													

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream

RIPARIAN WIDTH (Per Bank)

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY (Most Predominant per Bank)

L	R	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 %100 %)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 %100 %)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 %100 %)
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OHWM
BF

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimishillen Creek Distance from Evaluated Stream ~1.5 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: snerrick Run Distance from Evaluated Stream ~1 mi

LRW

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Canton East NRCS Soil Map Page: / NRCS Soil Map Stream Order: /
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2002 Quantity: 0.23"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 85

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) / Dissolved Oxygen (mg/l) / pH (S.U.) 5.4 Conductivity (umhos/cm) /

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

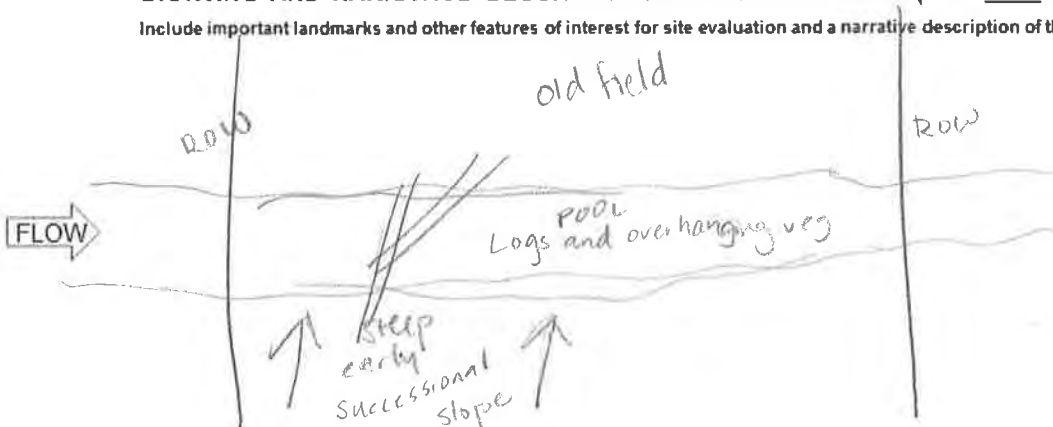
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



KBMD804



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

39

SITE NAME/LOCATION South Canton - Sunnyside 138 kV Line Rebuild Project
 SITE NUMBER Stream 4 RIVER BASIN Muskingum RIVER CODE _____ DRAINAGE AREA (m²) 41m²
 LENGTH OF STREAM REACH (ft) _____ LAT 40.7162832°N LONG -81.302916°W RIVER MILE _____
 DATE 3/15/2022 SCORER KLB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check <u>ONLY two</u> predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.		HHEI Metric Points Substrate Max = 40 <div style="border: 1px solid black; padding: 5px; width: 40px; text-align: center;">14</div>																											
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COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <div style="border: 1px solid black; padding: 2px;">7</div>																													

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Stream Flowing Moist Channel, isolated pools, no flow (intermittent)
 Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

None 1.0 2.0 3.0
 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE

Flat (0.5 %/100 ft) Flat to Moderate Moderate (2 %/100 ft) Moderate to Severe Severe (10 %/100 ft)

BF
2m
20m = 6m

Stream 4
KBMD804

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimishillen Creek Distance from Evaluated Stream ~0.5 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Canton East NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 3/12/2021 Quantity: 0.23"
Photo-documentation Notes: 1
Elevated Turbidity? (Y/N): N Canopy (% open): 90
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____
Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) 6.0 Conductivity (umhos/cm) _____
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

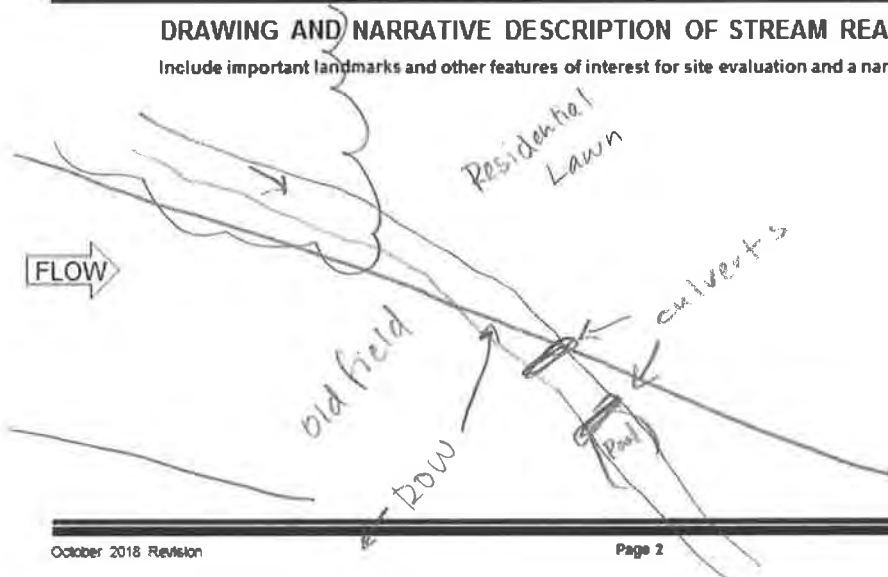
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____
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Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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





Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

103

SITE NAME/LOCATION South Canton - Sunnyside 138 KV Line Rebuild
 SITE NUMBER Stream 5 RIVER BASIN Muckinaw RIVER CODE _____ DRAINAGE AREA (mi²) 0.53
 LENGTH OF STREAM REACH (ft) 200 LAT 40.416050°N LONG -81.304424°W RIVER MILE _____
 DATE 3/15/22 SCORER KLP COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

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TYPE	PERCENT	TYPE	PERCENT																										
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<p>2. Maximum Pool Depth (Measure the <u>maximum</u> pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <u>ONLY ONE</u> box):</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]</td> </tr> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 20</p>	<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input checked="" type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]	<p>Pool Depth Max = 30</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">25</div>																						
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<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <u>ONLY ONE</u> box):</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 2.4</p>	<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max = 30</p> <div style="border: 1px solid black; padding: 5px; width: 40px; margin: 0 auto;">20</div>																						
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY ONE box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY ONE box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ± 100 %)
 Flat to Moderate
 Moderate (2 ± 100 %)
 Moderate to Severe
 Severe (10 ± 100 %)

OHWm
w = 3.5'
BF
w = 8'

Stream 5
SOS
upstream

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

VWH Name: Nimishellen Creek Distance from Evaluated Stream 1/2 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Canton East NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2024 Quantity: 0.23"
Photo-documentation Notes: _____
Elevated Turbidity? (Y/N): N Canopy (% open): 95%
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) 5.5 Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

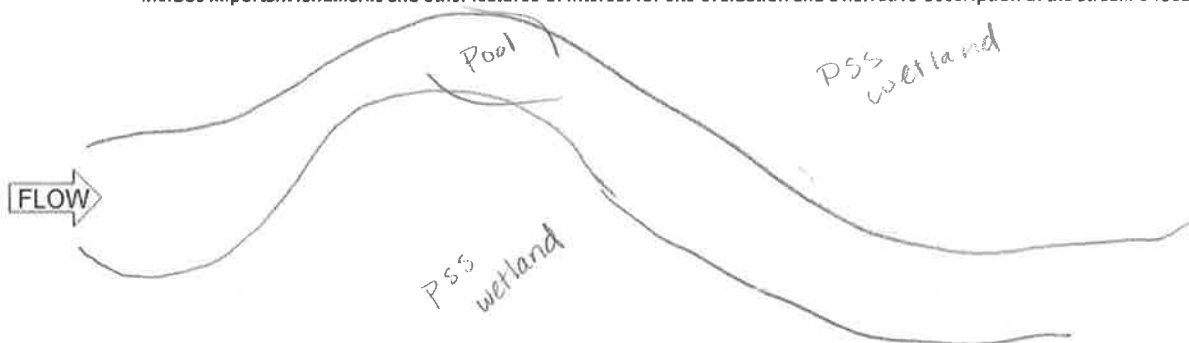
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____
Salamanders Observed? (Y/N) N Species observed (if known): _____
Aquatic Macroinvertebrates Observed? (Y/N) Y Species observed (if known): Water striders
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



Stream 5
KBMDSOS
(middle)

Ohio Primary Headwater Habitat Field Evaluation Form
HHEI Score (sum of metrics 1+2+3) **68**

SITE NAME/LOCATION South Canton - Sunnyside 138 rv line Rebuild Project
 SITE NUMBER Stream 5 RIVER BASIN Muskingum RIVER CODE DRAINAGE AREA (mi²) 0.53
 LENGTH OF STREAM REACH (ft) 200 LAT 40.7600570N LONG -81.3647330W RIVER MILE
 DATE 3/10/22 SCORER KLB COMMENTS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table border="0"> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td><u>10</u></td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>50</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td><u>40</u></td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) 15 (B) 3</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>		TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	<u>10</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>50</u>	<input type="checkbox"/> MUCK [0 pts]	_____	<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>40</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points Substrate Max = 40 18 A + B</p>
TYPE	PERCENT	TYPE	PERCENT																											
<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	<u>10</u>																											
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<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):</p> <table border="0"> <tr> <td><input checked="" type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 3.5</p>		<input checked="" type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max=30 25</p>																						
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS recent rain, stream full

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 %/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 %/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 %/100 ft)
--	--	--	---	---

Channel
6
BF
3.5m

KBMISSOS
(middle)
stream 5

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimishellen Creek Distance from Evaluated Stream ~0.5mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Canton East NRCS Soil Map Page: 1 NRCS Soil Map Stream Order: 1
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2022 Quantity: 0.23"
Photo-documentation Notes: _____
Elevated Turbidity? (Y/N): N Canopy (% open): 95%
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____
Field Measures: Temp (°C) 1 Dissolved Oxygen (mg/l) 1 pH (S.U.): 5.1 Conductivity (umhos/cm) 1
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

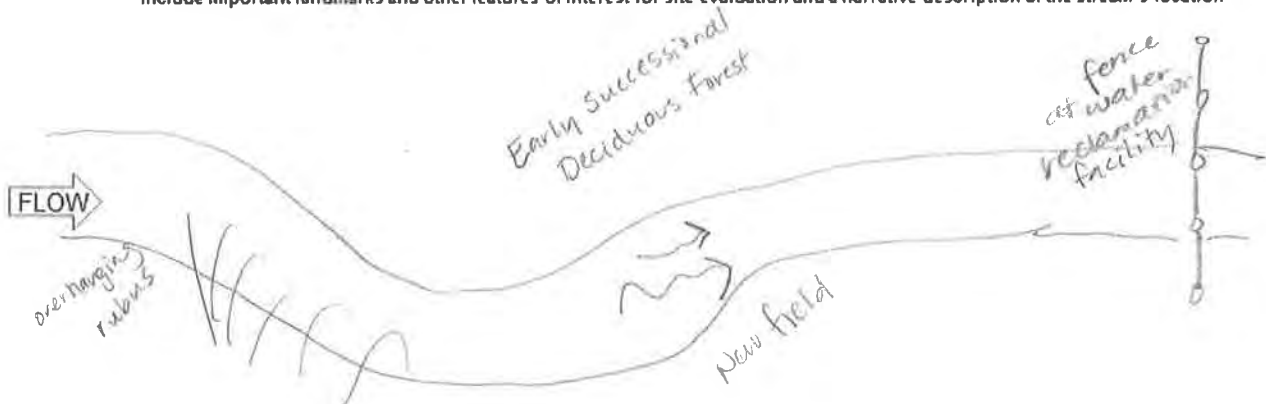
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____
Salamanders Observed? (Y/N) N Species observed (if known): _____
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



KBMS05
B
downstream



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

161

SITE NAME/LOCATION South Canton Sunnyside 138 KV Line Rebuild
 SITE NUMBER Stream 5 RIVER BASIN Muskingum RIVER CODE _____ DRAINAGE AREA (mi²) 0.53mi
 LENGTH OF STREAM REACH (ft) 200 LAT 40.757721°N LONG -81.366027°W RIVER MILE _____
 DATE 3/10/21 SCORER KLB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table border="0"> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> <tr> <td><input type="checkbox"/> Bldr Slabs [16 pts]</td> <td></td> <td><input checked="" type="checkbox"/> SILT [3 pt]</td> <td><u>40</u></td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td><u>20</u></td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td></td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td></td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td></td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td></td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>30</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td></td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td><u>10</u></td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td></td> </tr> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____ (A) <input type="checkbox"/> (B) <input type="checkbox"/></p>		TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> Bldr Slabs [16 pts]		<input checked="" type="checkbox"/> SILT [3 pt]	<u>40</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>20</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]		<input type="checkbox"/> BEDROCK [16 pts]		<input type="checkbox"/> FINE DETRITUS [3 pts]		<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]		<input type="checkbox"/> CLAY or HARDPAN [0 pt]		<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>30</u>	<input type="checkbox"/> MUCK [0 pts]		<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>10</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]		<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <p><u>16</u></p> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																											
<input type="checkbox"/> Bldr Slabs [16 pts]		<input checked="" type="checkbox"/> SILT [3 pt]	<u>40</u>																											
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<p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: <input type="checkbox"/> <u>10</u> TOTAL NUMBER OF SUBSTRATE TYPES: <input type="checkbox"/> <u>4</u></p>																														
<p>2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</p> <table border="0"> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <input type="checkbox"/> <u>20</u></p>		<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]	<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p>Pool Depth Max = 30</p> <p><u>25</u></p>																						
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<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]																													
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<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):</p> <table border="0"> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <input type="checkbox"/> <u>3</u></p>		<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max=30</p> <p><u>20</u></p>																						
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This information must also be completed
 RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS Water Reclamation Facility

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS Recent rain/snow melt - permanent intermittent

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 %/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 %/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 %/100 ft)
--	--	--	---	---

OHWHM
w = 5.5'
BF
w = 2m

Stream 5
KBMDSSOS
(downstream)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Ninnishillen Creek Distance from Evaluated Stream ~0.25mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Canton East NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N) N Date of last precipitation: 3/12/2022 Quantity: 0.22"
Photo-documentation Notes: _____
Elevated Turbidity? (Y/N) N Canopy (% open): 100
Were samples collected for water chemistry? (Y/N) N Lab Sample # or ID (attach results): _____
Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) 5.1 Conductivity (umhos/cm) _____
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

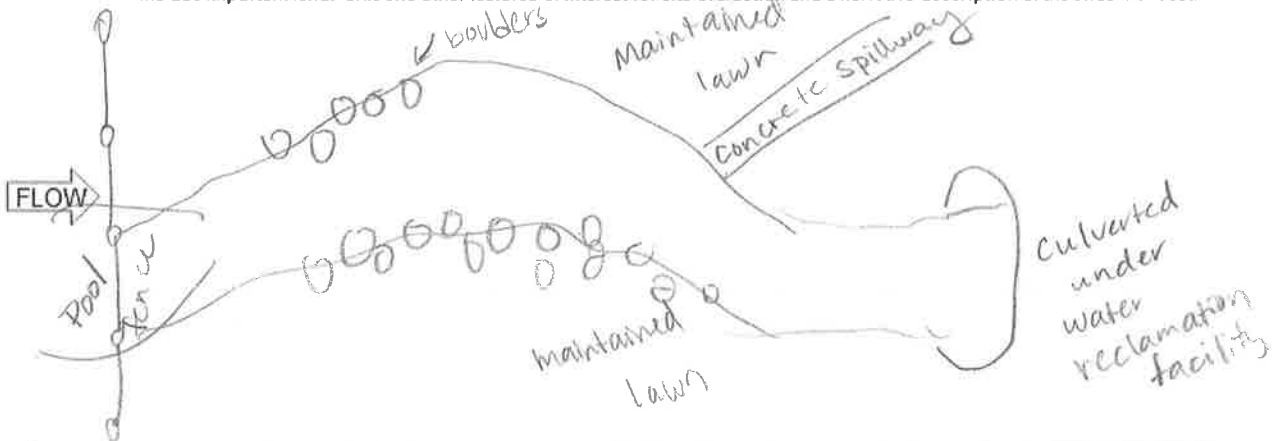
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) Y Species observed (if known): _____
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____
Salamanders Observed? (Y/N) N Species observed (if known): _____
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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





Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

45

SITE NAME/LOCATION South Canton Sunnyside 139 KV Line Rebuild Project
 SITE NUMBER Stream RIVER BASIN Muskingum RIVER CODE _____ DRAINAGE AREA (mi²) 41 mi
 LENGTH OF STREAM REACH (ft) 165' LAT 40.7478349N LONG -81.3788079W RIVER MILE _____
 DATE 3/16/2022 SCORER KLB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check <u>ONLY two</u> predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B		HHEI Metric Points Substrate Max = 40 15 A + B																																															
<table border="0"> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>BLDR SLABS [16 pts]</td><td>_____</td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td>SILT [3 pt]</td><td>_____</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>BOULDER (>256 mm) [16 pts]</td><td>_____</td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td>LEAF PACK/WOODY DEBRIS [3 pts]</td><td>40</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>BEDROCK [16 pts]</td><td>_____</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>FINE DETRITUS [3 pts]</td><td>_____</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>COBBLE (65-256 mm) [12 pts]</td><td>_____</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>CLAY or HARDPAN [0 pt]</td><td>_____</td></tr> <tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td>GRAVEL (2-64 mm) [9 pts]</td><td>50</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>MUCK [0 pts]</td><td>_____</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>SAND (<2 mm) [6 pts]</td><td>10</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>ARTIFICIAL [3 pts]</td><td>_____</td></tr> </table>	<input type="checkbox"/>		<input type="checkbox"/>	BLDR SLABS [16 pts]	_____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SILT [3 pt]	_____	<input type="checkbox"/>	<input type="checkbox"/>	BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LEAF PACK/WOODY DEBRIS [3 pts]	40	<input type="checkbox"/>	<input type="checkbox"/>	BEDROCK [16 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	FINE DETRITUS [3 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	GRAVEL (2-64 mm) [9 pts]	50	<input type="checkbox"/>	<input type="checkbox"/>	MUCK [0 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	SAND (<2 mm) [6 pts]	10	<input type="checkbox"/>	<input type="checkbox"/>	ARTIFICIAL [3 pts]	_____
<input type="checkbox"/>	<input type="checkbox"/>	BLDR SLABS [16 pts]	_____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SILT [3 pt]	_____																																										
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SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: <input type="checkbox"/> 12		TOTAL NUMBER OF SUBSTRATE TYPES: <input type="checkbox"/> 3																																															
2. Maximum Pool Depth (Measure the <u>maximum</u> pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <u>ONLY</u> one box):		Pool Depth Max = 30 15																																															
<table border="0"> <tr><td><input type="checkbox"/></td><td>> 30 centimeters [20 pts]</td><td><input checked="" type="checkbox"/></td><td>5 cm - 10 cm [15 pts]</td></tr> <tr><td><input type="checkbox"/></td><td>> 22.5 - 30 cm [30 pts]</td><td><input type="checkbox"/></td><td>< 5 cm [5pts]</td></tr> <tr><td><input type="checkbox"/></td><td>> 10 - 22.5 cm [25 pts]</td><td><input type="checkbox"/></td><td>NO WATER OR MOIST CHANNEL [0pts]</td></tr> </table>			<input type="checkbox"/>	> 30 centimeters [20 pts]	<input checked="" type="checkbox"/>	5 cm - 10 cm [15 pts]	<input type="checkbox"/>	> 22.5 - 30 cm [30 pts]	<input type="checkbox"/>	< 5 cm [5pts]	<input type="checkbox"/>	> 10 - 22.5 cm [25 pts]	<input type="checkbox"/>	NO WATER OR MOIST CHANNEL [0pts]																																			
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COMMENTS _____		MAXIMUM POOL DEPTH (centimeters): <input type="checkbox"/> 6																																															
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <u>ONLY</u> one box):		Bankfull Width Max=30 15																																															
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COMMENTS _____		AVERAGE BANKFULL WIDTH (meters) <input type="checkbox"/> 1.2																																															

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)

FLOODPLAIN QUALITY (Most Predominant per Bank)

L R
 Wide >10m
 Moderate 5-10m
 Narrow <5m
 None

L R
 Mature Forest, Wetland
 Immature Forest, Shrub or Old Field
 Residential, Park, New Field
 Fenced Pasture

L R
 Conservation Tillage
 Urban or Industrial
 Open Pasture, Row Crop
 Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Stream Flowing Moist Channel, isolated pools, no flow (intermittent)
 Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

None 1.0 2.0 3.0
 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE

Flat (0.5 %100 %) Flat to Moderate Moderate (2 %100 %) Moderate to Severe Severe (10 %100 %)

CHANN
w=2.5'
w=1.2m

ADDITIONAL STREAM INFORMATION (This information must also be completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimishillen creek Distance from Evaluated Stream ~2mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2022 Quantity: 0.23"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 95

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

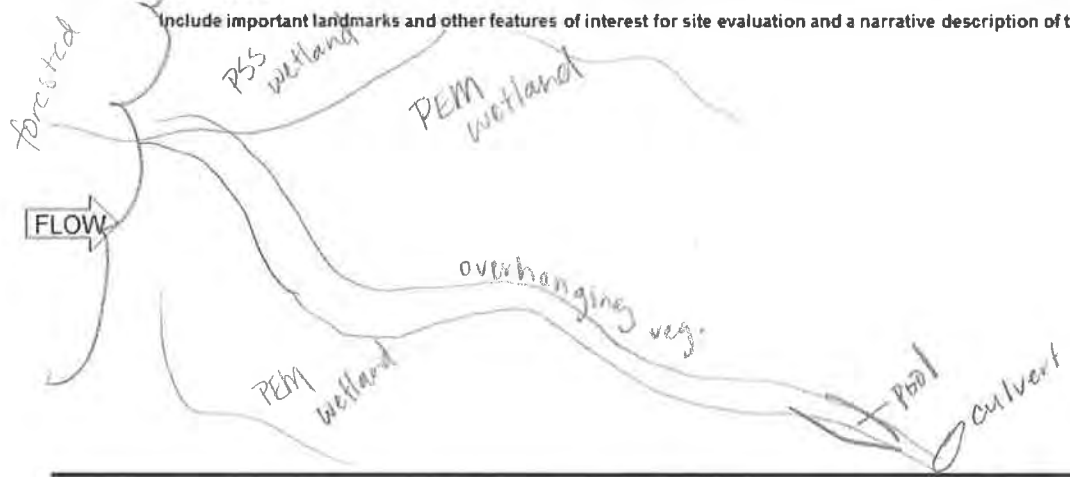
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



KBMD507



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

27

SITE NAME/LOCATION South Canton - Sunnyside 138 KV Line Rebuild Project
 SITE NUMBER Stream 7 RIVER BASIN Muskingum RIVER CODE _____ DRAINAGE AREA (mi²) <1 mi²
 LENGTH OF STREAM REACH (ft) _____ LAT 40.748109°N LONG -81.378240°W RIVER MILE _____
 DATE July 2022 SCORER KLB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p>				<p>HHEI Metric Points Substrate Max = 40</p> <p>7</p> <p>A + B</p>																											
<table border="1"> <thead> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> SILT [3 pt]</td> <td>100</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table>	TYPE	PERCENT	TYPE		PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	100	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____ (A) _____ (B) _____</p>	
TYPE	PERCENT	TYPE	PERCENT																												
<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	100																												
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<p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: <u>U</u></p>		<p>TOTAL NUMBER OF SUBSTRATE TYPES: <u>1</u></p>																													
<p>2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</p>				<p>Pool Depth Max = 30</p> <p>5</p>																											
<p><input type="checkbox"/> > 30 centimeters [20 pts]</p> <p><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</p> <p><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</p>		<p><input type="checkbox"/> 5 cm - 10 cm [15 pts]</p> <p><input checked="" type="checkbox"/> < 5 cm [5pts]</p> <p><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</p>																													
<p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <u>2</u></p>																															
<p>3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):</p>				<p>Bankfull Width Max=30</p> <p>15</p>																											
<p><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</p> <p><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</p> <p><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</p>		<p><input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</p> <p><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</p>																													
<p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <u>1.2</u></p>																															

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream★

DHWB
W = 2.5'
BF
W = 1.2m

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 %/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 %/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 %/100 ft)
--	--	--	---	---

K'BMD 507
Stream 7

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed)

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimishillen Creek Distance from Evaluated Stream ~2 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2022 Quantity: 0.23"
Photo-documentation Notes: _____
Elevated Turbidity? (Y/N): N Canopy (% open): 15%
Were samples collected for water chemistry? (Y/N): Y Lab Sample # or ID (attach results): _____
Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

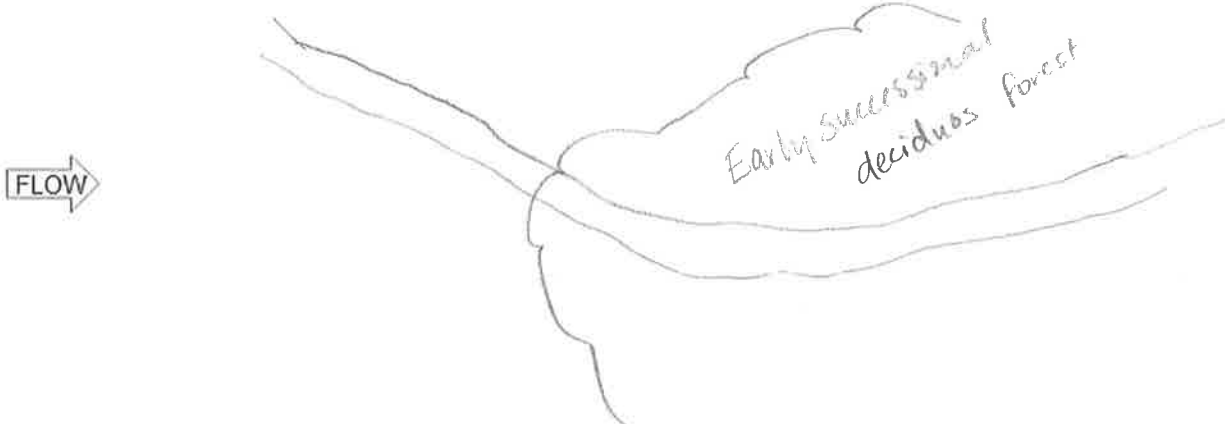
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____
Salamanders Observed? (Y/N) N Species observed (if known): _____
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____
Comments Regarding Biology: very little water

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



KBMD608



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

54

SITE NAME/LOCATION South Canton - Sunnyside 138 KV Line Rebuild Project
 SITE NUMBER Stream 8 RIVER BASIN Muskingum RIVER CODE 1 DRAINAGE AREA (mi²) 4
 LENGTH OF STREAM REACH (ft) 190' LAT 40.141172°N LONG -81.385090°W RIVER MILE 1
 DATE 3/16/12 SCORER KB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check <u>ONLY two</u> predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.		HHEI Metric Points Substrate Max = 40 19 A + B																												
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COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <u>6</u>																														
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <u>ONLY</u> one box):		Bankfull Width Max=30 20																												
<table border="0"> <tr><td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td><td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td></tr> <tr><td><input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td><td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td></tr> <tr><td><input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td><td></td></tr> </table>			<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																							
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COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <u>2.5</u>																														

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

BF
2.5 m
OHWH
3'

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS Intermittent

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 %/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 %/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 %/100 ft)
--	--	--	---	---

Stream 8
KBMDS03

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed)

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimishillen Creek Distance from Evaluated Stream ~2mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: 1
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2022 Quantity: 0.23"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): _____

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) 6.2 Conductivity (umhos/cm)

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) Y Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Minnows

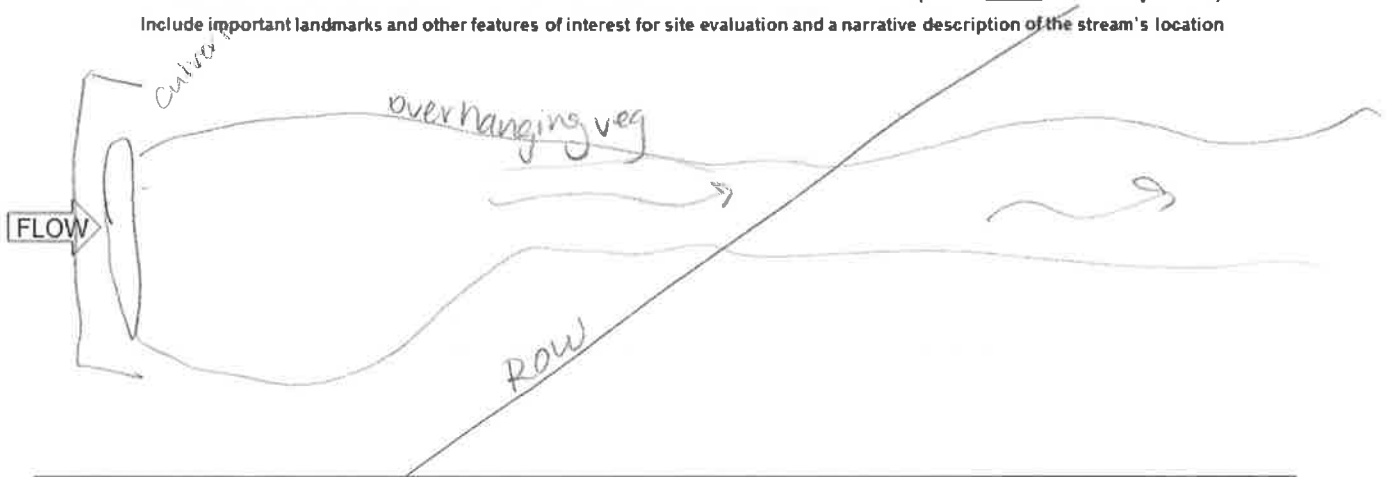
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) Y Species observed (if known): Water beetles

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



KBMD509



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

53

SITE NAME/LOCATION South Canton - Sunnyside 138 kV Line Rebuild Project
 SITE NUMBER Stream 9 RIVER BASIN Muskingum RIVER CODE DRAINAGE AREA (mi²) <1mi²
 LENGTH OF STREAM REACH (ft) 109 LAT 40.742759°N LONG -81.3921041°W RIVER MILE
 DATE 3/16/22 SCORER KLB COMMENTS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B		HHEI Metric Points Substrate Max = 40 18 A + B																											
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Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>0</u> (A) <u>15</u> (B) <u>3</u> SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: <u>15</u> TOTAL NUMBER OF SUBSTRATE TYPES: <u>3</u>																													
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COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <u>0</u>																													
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COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <u>2</u>																													

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)

FLOODPLAIN QUALITY (Most Predominant per Bank)

L R
 Wide >10m
 Moderate 5-10m
 Narrow <5m
 None

L R
 Mature Forest, Wetland
 Immature Forest, Shrub or Old Field
 Residential, Park, New Field
 Fenced Pasture

L R
 Conservation Tillage
 Urban or Industrial
 Open Pasture, Row Crop
 Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Stream Flowing Moist Channel, isolated pools, no flow (intermittent)
 Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

None 1.0 2.0 3.0
 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE

Flat (0.5 %/100 ft) Flat to Moderate Moderate (2 %/100 ft) Moderate to Severe Severe (10 %/100 ft)

2m
AWM = 2.5'

Stream 9
KBMDS09

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimichollen Creek Distance from Evaluated Stream ~2.0 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2022 Quantity: 0.23"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): Y Canopy (% open): 90

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) 7.9 Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

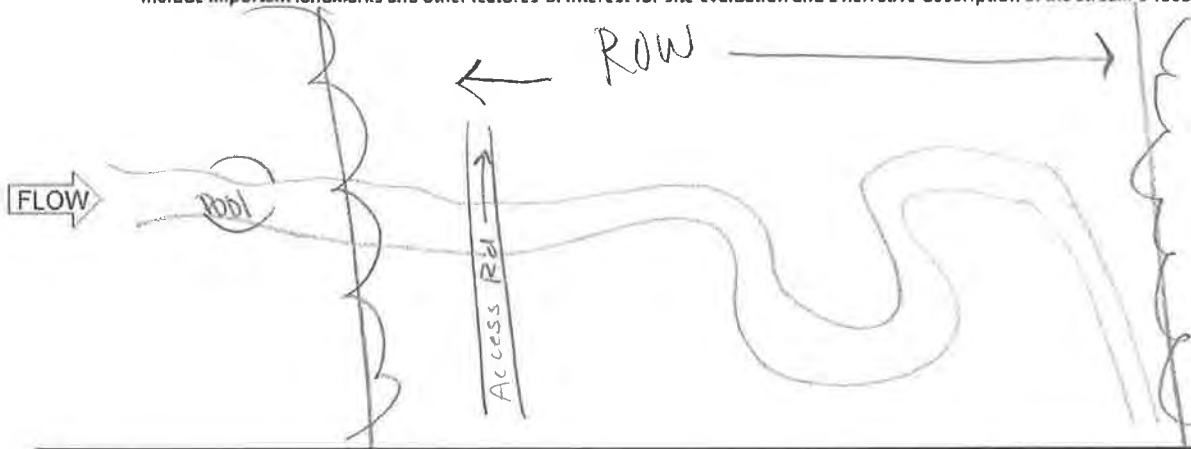
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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





Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

43

SITE NAME/LOCATION South Canton - Sunny Side 138 kV Line Rebuild Project
 SITE NUMBER SP10 RIVER BASIN Muskingum RIVER CODE _____ DRAINAGE AREA (mi²) < 1 mi²
 LENGTH OF STREAM REACH (ft) 200 LAT 40.745630°N LONG 81.381130°W RIVER MILE _____
 DATE 3/17/22 SCORER KLB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check ONLY <u>two</u> predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table border="0"> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> SILT [3 pt]</td> <td><u>40</u></td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>10</u></td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>20</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td><u>30</u></td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u> (A) <u>9</u> (B) <u>4</u></p>		TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	<u>40</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>10</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>20</u>	<input type="checkbox"/> MUCK [0 pts]	_____	<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>30</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <p>13</p> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																											
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<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>30</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____																											
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____ ephemeral

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 %:100 %)	<input type="checkbox"/> Flat to Moderate	<input checked="" type="checkbox"/> Moderate (2 %:100 %)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 %:100 %)
---	---	--	---	--

OHWM
W = 2.5'

BF
W = 1.5m

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimishellen Creek Distance from Evaluated Stream ~ 2 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: 1 NRCS Soil Map Stream Order: 1
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2022 Quantity: 0.23"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): _____

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) ✓ Dissolved Oxygen (mg/l) ✓ pH (S.U.) ✓ Conductivity (umhos/cm) ✓

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

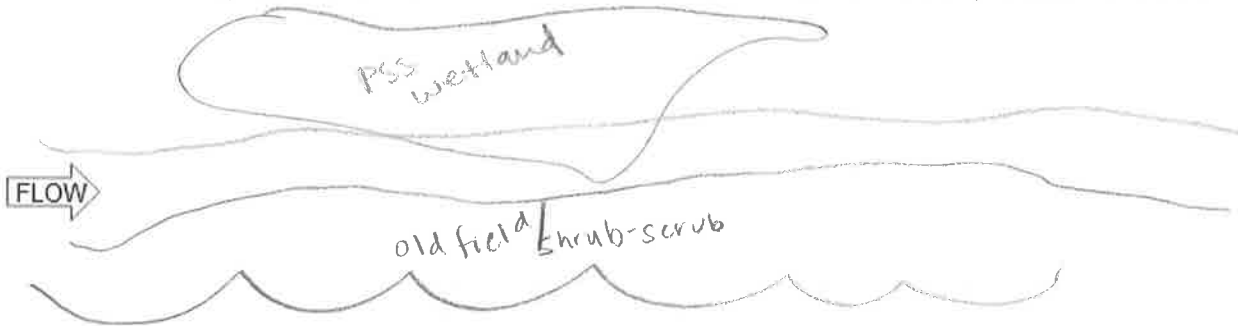
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



KBMD.511
downstream



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

40

SITE NAME/LOCATION South Canton - Sunnyside 138KV Line Rebuild Project
 SITE NUMBER Stream 11 RIVER BASIN Muskingum RIVER CODE _____ DRAINAGE AREA (mi²) 1.012
 LENGTH OF STREAM REACH (ft) 167 LAT 40.723612° N LONG -81.399807° W RIVER MILE _____
 DATE 3/17/22 SCORER KLB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B		HHEI Metric Points Substrate Max = 40 30 A + B																											
<table border="0"> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> BEDROCK [16 pts]</td> <td><u>80</u></td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>20</u></td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </table>	TYPE		PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input checked="" type="checkbox"/> BEDROCK [16 pts]	<u>80</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>20</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____
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COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <u>4</u>																													
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COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <u>1</u>																													

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 %/100 ft) Flat to Moderate Moderate (2 %/100 ft) Moderate to Severe Severe (10 %/100 ft)

KBMDS11
Stream 11

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Sandy Creek Distance from Evaluated Stream ~1 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 2/12/2022 Quantity: 0.23"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 90%

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): /

Field Measures: Temp (°C) / Dissolved Oxygen (mg/l) / pH (S.U.) 5.9 Conductivity (umhos/cm) /

Is the sampling reach representative of the stream (Y/N) N If not, explain: See HHEI completed for upstream portion

Additional comments/description of pollution impacts: Some sort of white/yellow growth

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

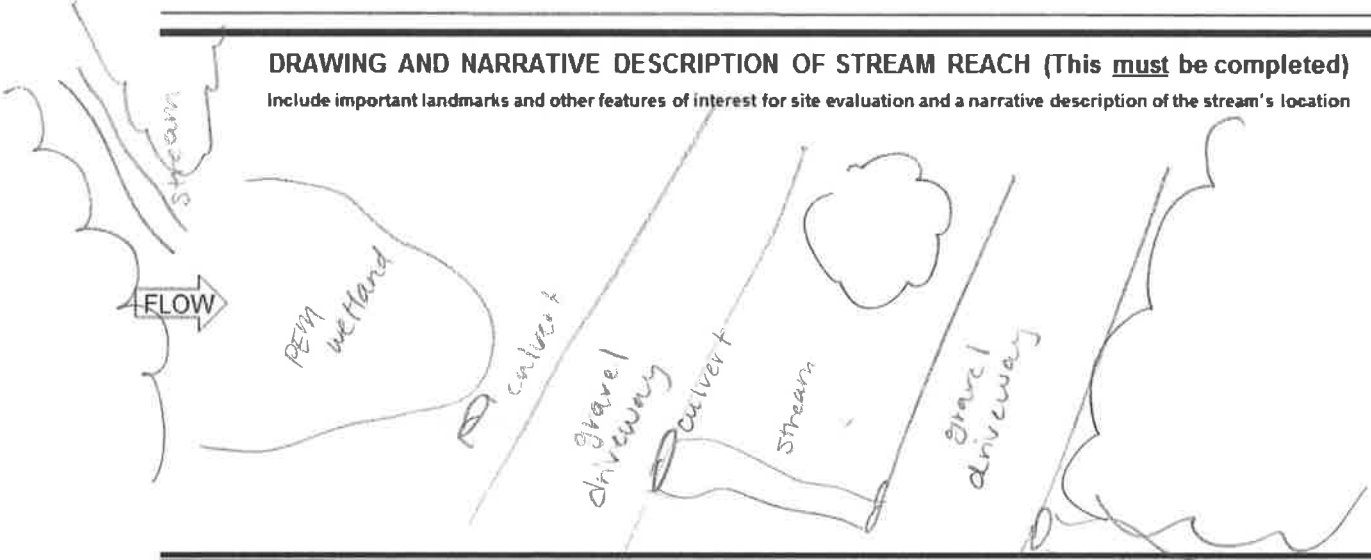
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



Ohio Primary Headwater Habitat Field Evaluation Form
HHEI Score (sum of metrics 1+2+3) 18

SITE NAME/LOCATION South Canton - Sunnyside 138 kV Line Rebuild Project
 SITE NUMBER stream11 RIVER BASIN Muskingum RIVER CODE DRAINAGE AREA (mi²) <1mi
 LENGTH OF STREAM REACH (ft) 40' LAT 40°25'19.9"N LONG -81.398170°W RIVER MILE
 DATE 3/17/22 SCORER KLB COMMENTS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <u>ONLY two</u> predominant substrate TYPE boxes. (Max of 32) Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> Bldr Slabs [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> SILT [3 pt]</td> <td style="text-align: center;">85</td> </tr> <tr> <td><input type="checkbox"/> Boulder (>256 mm) [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> Leaf Pack/Woody Debris [3 pts]</td> <td style="text-align: center;">15</td> </tr> <tr> <td><input type="checkbox"/> Bedrock [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> Fine Detritus [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Cobble (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> Clay or Hardpan [0 pt]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Gravel (2-64 mm) [9 pts]</td> <td>_____</td> <td><input type="checkbox"/> Muck [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Sand (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> Artificial [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____ (A) 6 (B) 2</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 2</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> Bldr Slabs [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	85	<input type="checkbox"/> Boulder (>256 mm) [16 pts]	_____	<input checked="" type="checkbox"/> Leaf Pack/Woody Debris [3 pts]	15	<input type="checkbox"/> Bedrock [16 pts]	_____	<input type="checkbox"/> Fine Detritus [3 pts]	_____	<input type="checkbox"/> Cobble (65-256 mm) [12 pts]	_____	<input type="checkbox"/> Clay or Hardpan [0 pt]	_____	<input type="checkbox"/> Gravel (2-64 mm) [9 pts]	_____	<input type="checkbox"/> Muck [0 pts]	_____	<input type="checkbox"/> Sand (<2 mm) [6 pts]	_____	<input type="checkbox"/> Artificial [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px auto; text-align: center; line-height: 40px;">8</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
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<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <u>ONLY</u> one box):</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 1</p>	<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max=30</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px auto; text-align: center; line-height: 40px;">5</div>																						
<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]																												
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]																												
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																													

AWIM
1.75'
BF
1m

This information must also be completed
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)			
L	R	L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____ *ephemeral*

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 %/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 %/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 %/100 ft)
--	--	--	---	---

Stream #
KBMDS11

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Sandy Creek Distance from Evaluated Stream 2 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2012 Quantity: 0.23"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 15

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) N If not, explain: see HRTI for

downstream portion

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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





Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

13

SITE NAME/LOCATION South Canton - Sunnyside 138 kV Line Rebuild Project
 SITE NUMBER Stream 12 RIVER BASIN Muskingum RIVER CODE 1 DRAINAGE AREA (mi²) < 1 mi²
 LENGTH OF STREAM REACH (ft) 40' LAT 40.725199°N LONG 81.398170°W RIVER MILE 1
 DATE 3/17/2022 SCORER KLB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check <u>ONLY</u> two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.		HHEI Metric Points Substrate Max = 40 8 A + B																																																						
<table border="0"> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>BLDR SLABS [16 pts]</td><td>_____</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td>SILT [3 pt]</td><td>_____</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>BOULDER (>256 mm) [16 pts]</td><td>_____</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td>LEAF PACK/WOODY DEBRIS [3 pts]</td><td><u>30</u></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>BEDROCK [16 pts]</td><td>_____</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>FINE DETRITUS [3 pts]</td><td>_____</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>COBBLE (65-256 mm) [12 pts]</td><td>_____</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>CLAY or HARDPAN [0 pt]</td><td>_____</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>GRAVEL (2-64 mm) [9 pts]</td><td>_____</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>MUCK [0 pts]</td><td>_____</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>SAND (<2mm) [6 pts]</td><td>_____</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>ARTIFICIAL [3 pts]</td><td>_____</td></tr> </table>	<input type="checkbox"/>		<input type="checkbox"/>	BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SILT [3 pt]	_____	<input type="checkbox"/>	<input type="checkbox"/>	BOULDER (>256 mm) [16 pts]	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LEAF PACK/WOODY DEBRIS [3 pts]	<u>30</u>	<input type="checkbox"/>	<input type="checkbox"/>	BEDROCK [16 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	FINE DETRITUS [3 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	CLAY or HARDPAN [0 pt]	_____	<input type="checkbox"/>	<input type="checkbox"/>	GRAVEL (2-64 mm) [9 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	MUCK [0 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	SAND (<2mm) [6 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	ARTIFICIAL [3 pts]	_____	<table border="0"> <tr><td colspan="2">Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock</td><td><u>0</u></td></tr> <tr><td>(A)</td><td><u>6</u></td><td>(B)</td><td><u>2</u></td></tr> </table>	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock		<u>0</u>	(A)	<u>6</u>	(B)
<input type="checkbox"/>	<input type="checkbox"/>	BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SILT [3 pt]	_____																																																	
<input type="checkbox"/>	<input type="checkbox"/>	BOULDER (>256 mm) [16 pts]	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LEAF PACK/WOODY DEBRIS [3 pts]	<u>30</u>																																																	
<input type="checkbox"/>	<input type="checkbox"/>	BEDROCK [16 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	FINE DETRITUS [3 pts]	_____																																																	
<input type="checkbox"/>	<input type="checkbox"/>	COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/>	<input type="checkbox"/>	CLAY or HARDPAN [0 pt]	_____																																																	
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2. Maximum Pool Depth (Measure the <u>maximum</u> pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <u>ONLY</u> one box):		Pool Depth Max = 30 0																																																						
<table border="0"> <tr><td><input type="checkbox"/></td><td>> 30 centimeters [20 pts]</td><td><input type="checkbox"/></td><td>5 cm - 10 cm [15 pts]</td></tr> <tr><td><input type="checkbox"/></td><td>> 22.5 - 30 cm [30 pts]</td><td><input type="checkbox"/></td><td>< 5 cm [5pts]</td></tr> <tr><td><input type="checkbox"/></td><td>> 10 - 22.5 cm [25 pts]</td><td><input checked="" type="checkbox"/></td><td>NO WATER OR MOIST CHANNEL [0pts]</td></tr> </table>	<input type="checkbox"/>		> 30 centimeters [20 pts]	<input type="checkbox"/>	5 cm - 10 cm [15 pts]	<input type="checkbox"/>	> 22.5 - 30 cm [30 pts]	<input type="checkbox"/>	< 5 cm [5pts]	<input type="checkbox"/>	> 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/>	NO WATER OR MOIST CHANNEL [0pts]	COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <u>0</u>																																										
<input type="checkbox"/>	> 30 centimeters [20 pts]	<input type="checkbox"/>	5 cm - 10 cm [15 pts]																																																					
<input type="checkbox"/>	> 22.5 - 30 cm [30 pts]	<input type="checkbox"/>	< 5 cm [5pts]																																																					
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<table border="0"> <tr><td><input type="checkbox"/></td><td>> 4.0 meters (> 13') [30 pts]</td><td><input type="checkbox"/></td><td>> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td></tr> <tr><td><input type="checkbox"/></td><td>> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td><td><input checked="" type="checkbox"/></td><td>≤ 1.0 m (≤ 3' 3") [5 pts]</td></tr> <tr><td><input type="checkbox"/></td><td>> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td><td></td><td></td></tr> </table>	<input type="checkbox"/>		> 4.0 meters (> 13') [30 pts]	<input type="checkbox"/>	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/>	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/>	≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/>	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]			COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <u>0.75</u>																																										
<input type="checkbox"/>	> 4.0 meters (> 13') [30 pts]	<input type="checkbox"/>	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]																																																					
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<input type="checkbox"/>	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																																																							

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/>	Stream Flowing	<input checked="" type="checkbox"/>	Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/>	Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/>	Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input checked="" type="checkbox"/>	None	<input type="checkbox"/>	1.0	<input type="checkbox"/>	2.0	<input type="checkbox"/>	3.0
<input type="checkbox"/>	0.5	<input type="checkbox"/>	1.5	<input type="checkbox"/>	2.5	<input type="checkbox"/>	>3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/>	Flat (0.5 %/100 ft)	<input type="checkbox"/>	Flat to Moderate	<input checked="" type="checkbox"/>	Moderate (2 %/100 ft)	<input type="checkbox"/>	Moderate to Severe	<input type="checkbox"/>	Severe (10 %/100 ft)
--------------------------	---------------------	--------------------------	------------------	-------------------------------------	-----------------------	--------------------------	--------------------	--------------------------	----------------------

BF = 0.75m
OH/WIM = 1.25'

KBM 0512
Stream 12

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Bear Run Distance from Evaluated Stream 20.5 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 3/12/2022 Quantity: 0.23"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 20

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

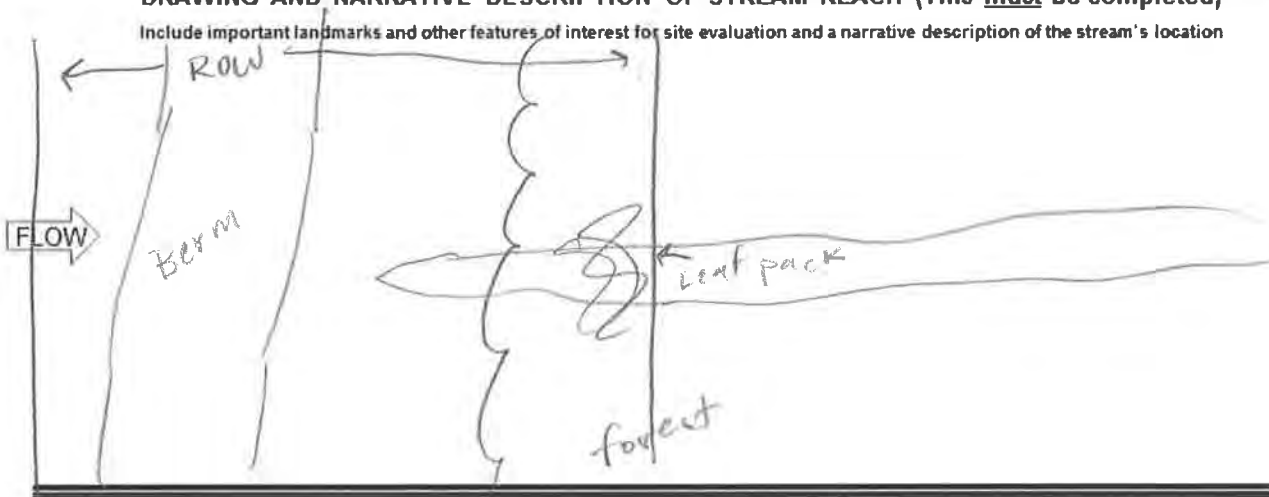
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: no water

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



KBMDS13



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

51

SITE NAME/LOCATION South Canton-Sunnyside 138 KV Line Rebuild Project
 SITE NUMBER Stream B RIVER BASIN Muskingum RIVER CODE DRAINAGE AREA (mi²) < 1
 LENGTH OF STREAM REACH (ft) 153' LAT 40.727252°N LONG -81.394584°W RIVER MILE
 DATE 3/17/22 SCORER KLB COMMENTS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table border="0"> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> SILT [3 pt]</td> <td><u>30</u></td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>5</u></td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>55</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td><u>10</u></td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>5</u> (A) (B) <u>4</u></p>		TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	<u>30</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>5</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>55</u>	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>10</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <p><u>14</u></p> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																											
<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	<u>30</u>																											
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____																											
<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____																											
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>5</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____																											
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>55</u>	<input type="checkbox"/> MUCK [0 pts]	_____																											
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>10</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____																											
<p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: <u>12</u> TOTAL NUMBER OF SUBSTRATE TYPES: <u>4</u></p>																														
<p>2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</p> <table border="0"> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input checked="" type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </table>		<input type="checkbox"/> > 30 centimeters [20 pts]	<input checked="" type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p>Pool Depth Max = 30</p> <p><u>15</u></p>																						
<input type="checkbox"/> > 30 centimeters [20 pts]	<input checked="" type="checkbox"/> 5 cm - 10 cm [15 pts]																													
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<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]																													
<p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <u>6</u></p>																														
<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):</p> <table border="0"> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </table>		<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input checked="" type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max = 30</p> <p><u>20</u></p>																						
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<p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <u>2</u></p>																														

BF / 2m
OHWM
2.25'

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input checked="" type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS intermittent

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 %/100 ft) Flat to Moderate Moderate (2 %/100 ft) Moderate to Severe Severe (10 %/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed)

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Bear Run Distance from Evaluated Stream ~0.5mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: 1 NRCS Soil Map Stream Order: 1
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2022 Quantity: 0.23"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 70

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

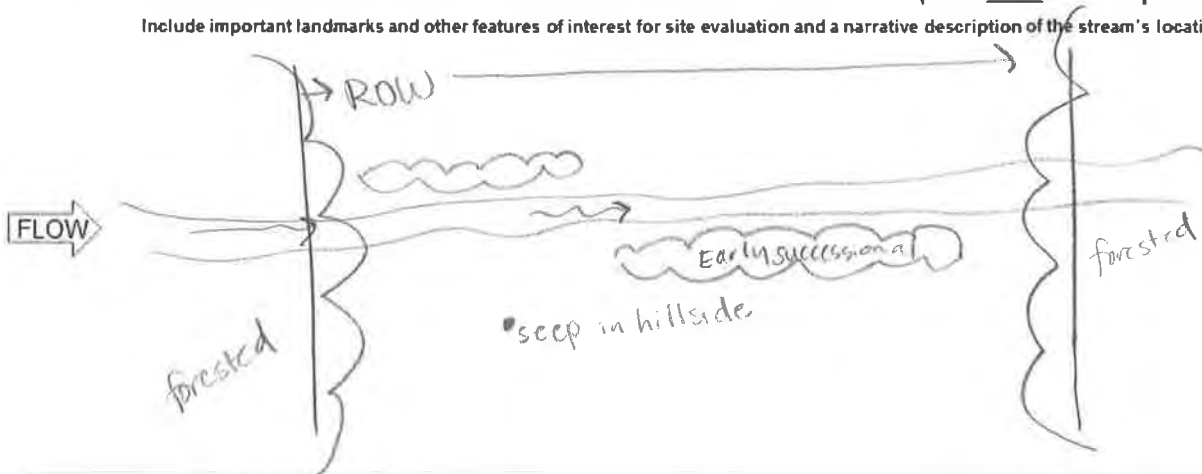
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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





Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

50

SITE NAME/LOCATION South Canton - Sunnyside 138 kV Line Rebuild Project
 SITE NUMBER Stream 14 RIVER BASIN Muskingum RIVER CODE DRAINAGE AREA (mi²) <1mi²
 LENGTH OF STREAM REACH (ft) 127' LAT 40.730087°N LONG -81.393040°W RIVER MILE
 DATE 3/17/2022 SCORER KLB COMMENTS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check <u>ONLY two</u> predominant substrate <u>TYPE</u> boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B		HHEI Metric Points Substrate Max = 40 <div style="border: 1px solid black; padding: 5px; width: 40px; text-align: center; margin: 0 auto;">15</div> A + B																											
<table border="0" style="width: 100%;"> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> SILT [3 pt]</td> <td style="text-align: center;">40</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td style="text-align: center;">15</td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td style="text-align: center;">25</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </table>	TYPE		PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	40	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	15	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	25	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____
TYPE	PERCENT	TYPE	PERCENT																										
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Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____ (A) 12		(B) 3																											
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12		TOTAL NUMBER OF SUBSTRATE TYPES: 3																											
2. Maximum Pool Depth (Measure the <u>maximum pool depth within the 61 meter (200 feet)</u> evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or stormwater pipes) (Check <u>ONLY one</u> box):		Pool Depth Max = 30 <div style="border: 1px solid black; padding: 5px; width: 40px; text-align: center; margin: 0 auto;">15</div>																											
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COMMENTS _____		MAXIMUM POOL DEPTH (centimeters): 10																											
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COMMENTS _____		AVERAGE BANKFULL WIDTH (meters) 25																											

BF = 2.5 m
OHWHW = 3.5'

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream.

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 %/100 ft) Flat to Moderate Moderate (2 %/100 ft) Moderate to Severe Severe (10 %/100 ft)

Stream 14
KBMDS14

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Sandy Creek Distance from Evaluated Stream ~ 2 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: / NRCS Soil Map Stream Order: /
County: Stark Township/City: Canter

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2022 Quantity: 0.23"
Photo-documentation Notes: and snow melt
Elevated Turbidity? (Y/N): N Canopy (% open): 40%
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): /
Field Measures: Temp (°C) / Dissolved Oxygen (mg/l) / pH (S.U.) / Conductivity (umhos/cm) /
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

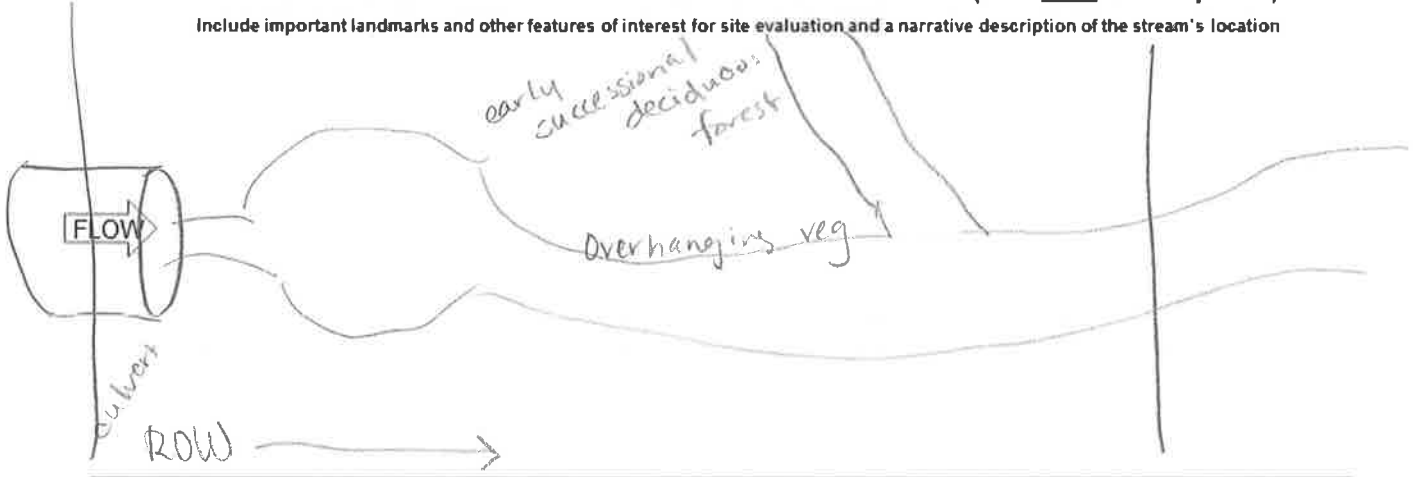
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____
Frogs or Tadpoles Observed? (Y/N) Y Species observed (if known): _____
Salamanders Observed? (Y/N) N Species observed (if known): _____
Aquatic Macroinvertebrates Observed? (Y/N) Y Species observed (if known): Crayfish
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



KBMD515



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

39

SITE NAME/LOCATION South Canton - Sunnyside 138 KV Line Rebuild Project
 SITE NUMBER Stream 15 RIVER BASIN Muskingum RIVER CODE DRAINAGE AREA (mi²) <1mi²
 LENGTH OF STREAM REACH (ft) 83' LAT 40.33055°N LONG 81.391722°W RIVER MILE
 DATE 3/17/22 SCORER KLB COMMENTS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B		HHEI Metric Points Substrate Max = 40 14 A + B																											
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COMMENTS <u> </u> AVERAGE BANKFULL WIDTH (meters) <u>3</u>																													

BF > 3m
OFWWT = 3.5'

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream★

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 %-100 %) Flat to Moderate Moderate (2 %-100 %) Moderate to Severe Severe (10 %-100 %)

Stream 15
KBMD S15

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed)

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

VWH Name: Bial Run Distance from Evaluated Stream ~0.5 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2022 Quantity: 0.23"
Photo-documentation Notes: and snow melt
Elevated Turbidity? (Y/N): N Canopy (% open): 95
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____
Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

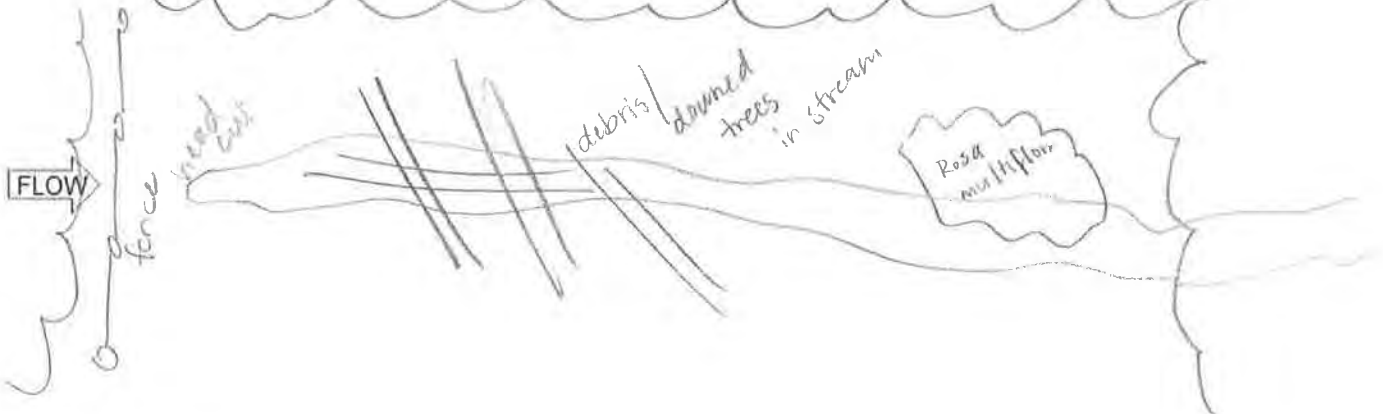
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____
Salamanders Observed? (Y/N) N Species observed (if known): _____
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____
Comments Regarding Biology: No water

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



KBMD516

Ohio Primary Headwater Habitat Field Evaluation Form
Ohio Environmental Protection Agency
HHEI Score (sum of metrics 1+2+3) **64**

SITE NAME/LOCATION South Canton-SunnySide 138 KV Line Rebuild Project
SITE NUMBER Stream 16 RIVER BASIN Muckinquaum RIVER CODE 1 DRAINAGE AREA (mi²) <1 mi²
LENGTH OF STREAM REACH (ft) 200' LAT 40.920918°N LONG -81.402120°W RIVER MILE 1
DATE 3/18/22 SCORER KLB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table border="0"> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> <tr> <td><input type="checkbox"/> BDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td><u>20</u></td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>5</u></td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>40</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td><u>35</u></td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </table> <p>Total of Percentages of Bdr Slabs, Boulder, Cobble, Bedrock <u>5</u> (A) 15 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>		TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	<u>20</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>5</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>40</u>	<input type="checkbox"/> MUCK [0 pts]	_____	<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>35</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points Substrate Max = 40 19 A + B</p>
TYPE	PERCENT	TYPE	PERCENT																											
<input type="checkbox"/> BDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	<u>20</u>																											
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<p>2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</p> <table border="0"> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 12</p>		<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]	<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p>Pool Depth Max = 30 25</p>																						
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<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):</p> <table border="0"> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 2</p>		<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max=30 20</p>																						
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____ intermittent

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 to 100 %) Flat to Moderate Moderate (2 to 100 %) Moderate to Severe Severe (10 to 100 %)

DHUM:
4'
BF =
2m

KRMDS10
Stream 16

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Bear Run Distance from Evaluated Stream ~1 mile
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: 1 NRCS Soil Map Stream Order: 1
County: Stark Township/City: Canlon

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2021 Quantity: 0.25"
and recent snow melt
Photo-documentation Notes: _____
Elevated Turbidity? (Y/N): Y Canopy (% open): 90%
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____
Field Measures: Temp (°C) ✓ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: Unknown residue - yellowish/white

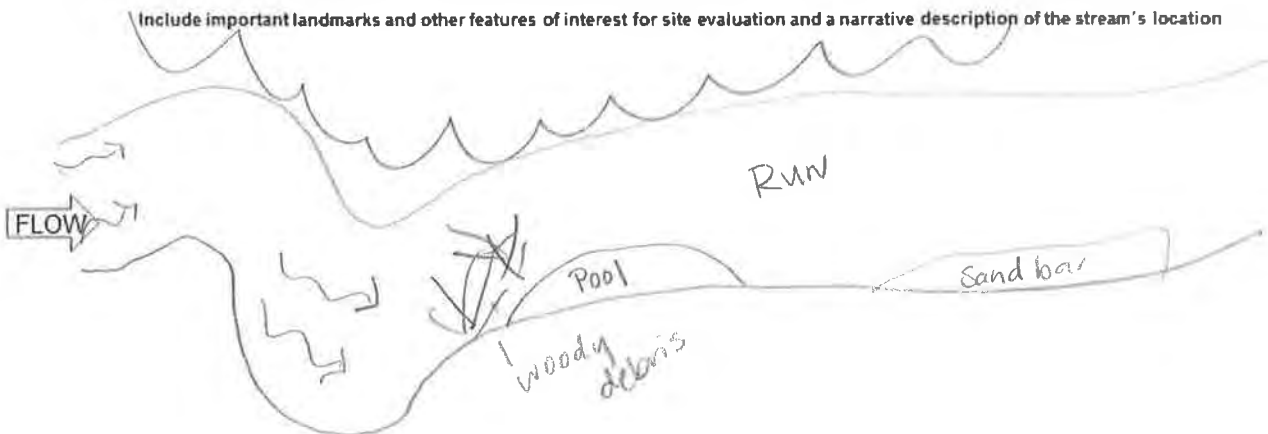
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) Y Species observed (if known): darters
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____
Salamanders Observed? (Y/N) N Species observed (if known): _____
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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





Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3) 69

SITE NAME/LOCATION South Canton - Sunnyside 138 KV Line Rebuild Project
 SITE NUMBER Stream 17 RIVER BASIN Muskingum RIVER CODE _____ DRAINAGE AREA (mi²) <1
 LENGTH OF STREAM REACH (ft) 200' LAT 40.916763°N LONG -81.405764°W RIVER MILE _____
 DATE 3/18/22 SCORER KLB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check <u>ONLY TWO</u> predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 35%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td><u>15</u></td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td><u>10</u></td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>50</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td><u>25</u></td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>10</u> (A) 15 (B) 4</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	<u>15</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>10</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>50</u>	<input type="checkbox"/> MUCK [0 pts]	_____	<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>25</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">19</div> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																										
<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	<u>15</u>																										
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<p>2. Maximum Pool Depth (Measure the <u>maximum</u> pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <u>ONLY</u> one box):</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 25</p>	<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input checked="" type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p>Pool Depth Max = 30</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">30</div>																						
<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]																												
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This information must also be completed
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____ *intermittent*

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 %/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 %/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 %/100 ft)
--	--	--	---	---

BWIM: 4
 BF: 3m

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed)

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Bear Run Distance from Evaluated Stream ~1 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Bolivar NRCS Soil Map Page: 1 NRCS Soil Map Stream Order: 1
County: Stark Township/City: Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 3/12/2012 Quantity: 0.23"
Photo-documentation Notes: _____
Elevated Turbidity? (Y/N): N Canopy (% open): 90%
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): 1
Field Measures: Temp (°C) 1 Dissolved Oxygen (mg/l) 1 pH (S.U.) 1 Conductivity (umhos/cm) 1
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: white residue

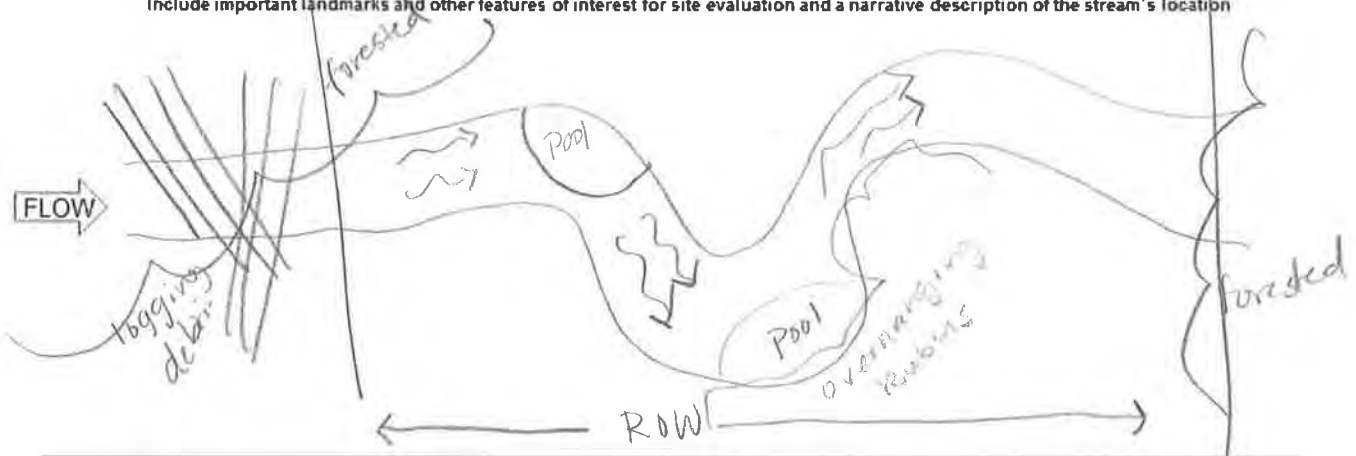
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____
Salamanders Observed? (Y/N) _____ Species observed (if known): _____
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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



Subject: South Canton-Sunnyside 138 kV Line Rebuild Project, Stark County, Ohio – Addendum Ecological Survey Memo

Date: March 16, 2023

To: Amy Toohey
AEP Ohio Transmission Company, Inc.
8600 Smiths Mill Road
New Albany, OH 43054

From: Dan Godec
10200 Alliance Road, Suite 300
Blue Ash, Ohio 45242

Stantec Consulting Services, Inc. (Stantec) performed surveys for wetlands and waterbodies, as well as a habitat assessment survey, for additional access roads and workspaces for the South Canton-Sunnyside 138 kV Transmission Line Project (the Project area) in Stark County, Ohio (Figure 1) on December 21, 2022 and February 14, 2023. Stantec's wetland delineation was performed in accordance with the onsite inspection, routine determination methodology described in the 1987 Corps of Engineers Wetlands Delineation Manual and the U.S. Army Corps of Engineers (USACE) Regional Supplement to the Corps of Engineers Wetland Delineation Manuals: Eastern Mountain and Piedmont Version 2.0 and Northcentral and Northeast Region Version 2.0.

There were no wetlands identified within the project area during the field surveys.

One ephemeral stream (Stream 18) and one intermittent stream (Stream 19) were identified within the Project area. The identified streams were delineated within the additional survey area needed for access roads. Representative photographs of the identified streams are attached, and the associated photograph locations are shown on Figure 2. The completed HHEI data forms are included as an attachment to this memo. Additional information regarding the identified streams is provided in Table 2.

Table 2. Summary of Stream Resources Found within the South Canton-Sunnyside 138 kV Transmission Line Project Area, Stark County, Ohio

Stream ID	Location		Stream Type ¹	Stream Name	Delineation length (feet)	Bankfull width (feet)	OHWM width ² (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing	Proposed Impacts	
	Latitude	Longitude						Method ³	Score	Category/ Rating/OAC Designation ⁴			Fill type	Length LF
Stream 18	40.768125	-81.36404	Ephemeral	UNT to Nimishillen Creek	3	3	2	HHEI	48	Modified Class II PHW	Eligible	Yes	N/A	0
Stream 19	40.748291	-81.37928	Intermittent	UNT to Nimishillen Creek	33	4	1.5	HHEI	45	Modified Class II PHW	Eligible	Yes	N/A	0
Total Delineated Length Within Project Area					36						Total Proposed Impacts		0	

¹ Stream Classification is based on OAC (Ohio Administrative Code) Chapter 3745-1.
² OHWM = Ordinary High Water Mark
³ HHEI = Headwater Habitat Evaluation Index
⁴ PHW = Primary Headwater

Stantec also categorized the habitats and land cover types present within the Project area during the surveys completed on December 21, 2022 and February 14, 2023. The land cover types found within the additional Project area included new field, existing roadway, agricultural land, pasture, old field, residential lawn, industrial land, mixed early successional/seasonal growth deciduous forest, and early successional deciduous forest. Figure 3 shows the locations of habitats observed within the Project area during the habitat assessment surveys. Representative photographs of the vegetation communities/habitats and land cover types identified within the Project area are also attached.

New field habitat within the Project area was dominated by Canada goldenrod (*Solidago canadensis*), Kentucky bluegrass (*Poa pratensis*), tall fescue (*Schedonorus arundinaceus*), curly dock (*Rumex crispus*) and timothy (*Phleum pratense*).

Agricultural field habitat within the Project area was dominated by row crops including corn (*Zea mays*) and soybean (*Glycine max*).

Pasture within the Project area was dominated by Kentucky bluegrass, narrowleaf plantain (*Plantago lanceolata*), common plantain (*Plantago major*), red clover (*Trifolium pratense*), and curly dock.

Old field habitat within the Project area was dominated by Fuller's teasel (*Dipsacus fullonum*), Amur honeysuckle (*Lonicera maackii*), reed canarygrass (*Phalaris arundinacea*), giant ironweed (*Vernonia gigantea*), Canada goldenrod, Japanese bristlegrass (*Setaria faberi*), Queen Anne's lace (*Daucus carota*), deertongue (*Dichanthelium clandestinum*), and hairy white oldfield aster (*Symphotrichum pilosum*).

Residential lawn within the Project area was dominated by Kentucky bluegrass, common dandelion (*Taraxacum officinale*), and narrowleaf plantain.

Mixed early successional/second growth deciduous forest habitat within the Project area was dominated by multiflora rose (*Rosa multiflora*), Allegheny blackberry (*Rubus allegheniensis*), Morrow's honeysuckle (*Lonicera morrowii*), red maple (*Acer rubrum*), white oak (*Quercus alba*), and northern red oak (*Quercus rubra*).

Early successional deciduous forest habitat within the Project area was dominated by red maple, box elder (*Acer negundo*), common hackberry (*Celtis occidentalis*), raspberry species (*Rubus sp.*), Morrow's honeysuckle, Kentucky bluegrass, and ground ivy (*Glechoma hederacea*).

In summary, Stantec identified one ephemeral stream (Stream 18) and one intermittent stream (Stream 19) during the wetland, waterbody, and habitat assessment survey completed within the additional survey areas of the South Canton-Sunnyside 138 kV Transmission Line Project on December 21, 2022 and February 14, 2023. During the field surveys, the following habitat/land cover types were found within the additional Project area; new field, existing roadway, agricultural land, pasture, old field, residential lawn, industrial land, mixed early successional/seasonal growth deciduous forest, and early successional deciduous forest. Project maps, representative photographs, and completed data forms are attached.

Stantec Consulting Services, Inc.



Dan Godec

Phone: (513) 842-8203

Daniel.Godec@stantec.com

Attachments - Figure 1 – Addendum Project Location Map
Figure 2 – Addendum Wetland and Waterbody Delineation Map

March 16, 2023

South Canton-Sunnyside 138 kV Line Rebuild Project, Stark County, Ohio

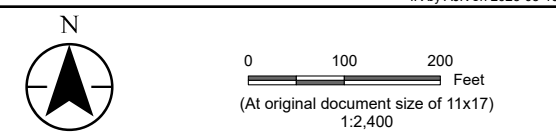
Page 4 of 4

Figure 3 – Addendum Habitat Assessment Map
Wetland and Waterbody Delineation Photographs
HHEI Data Forms
Habitat Assessment Photographs

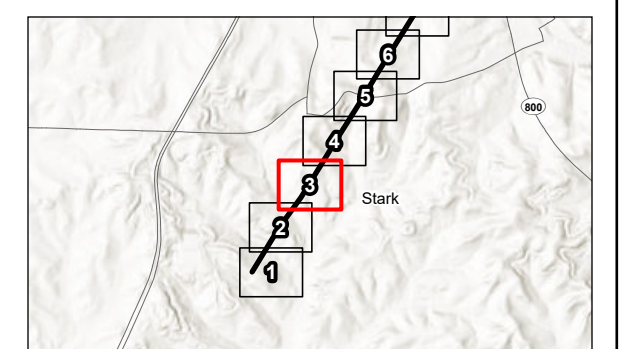
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Figure No. **2**
Addendum Wetland and Waterbody Delineation Map
 Client/Project: AEP Ohio Transmission Company, Inc. South Canton-Sunnyside 138 kV Line Rebuild Project
 Project Location: Stark County, Ohio
 Prepared by RA on 2023-01-10, TR by JS on 2023-01-10, IR by AJK on 2023-03-10



- Legend**
- | | |
|---|--|
| ■ AEP Substation | Upland Drainage Feature |
| ○ Existing Structure to be Replaced | Approximate Upland Drainage Feature |
| ● Existing Structure to Remain | Field Delineated Waterway |
| ◇ Proposed Structure | Approximate Waterway |
| ◆ Proposed Distribution Structure | Field Delineated Waterway Area |
| Existing 138 kV Transmission Line to be Rebuilt | Field Delineated Open Water |
| Existing Distribution Line | Approximate Open Water |
| Proposed 138 kV Transmission Line | Field Delineated Emergent Wetland |
| Proposed Access Road | Field Delineated Scrub-Shrub Wetland |
| Addendum Project Area | Field Delineated Unconsolidated Bottom Wetland |
| Project Area (Previously Surveyed) | Approximate Wetland |
| ○ Photo Location | National Wetlands Inventory Feature |
| ▲ Existing Culvert | FEMA Flood Hazard Area |
| ▲ Storm Drain | 100-year Floodplain |
| ● Wetland Determination Sample Point | Floodway |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
 3. Orthophotography: 2019 NAIP

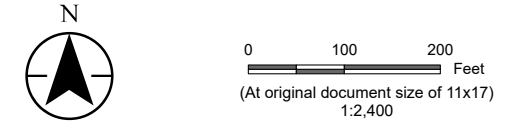


Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

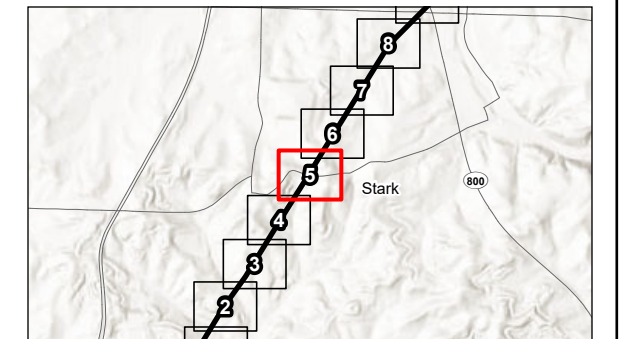
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Figure No. **2**
 Title **Addendum Wetland and Waterbody Delineation Map**
 Client/Project **AEP Ohio Transmission Company, Inc. South Canton-Sunnyside 138 kV Line Rebuild Project** 193708517
 Project Location **Stark County, Ohio** Prepared by RA on 2023-01-10
 TR by JS on 2023-01-10
 IR by AJK on 2023-03-10



- Legend**
- | | |
|---|--|
| ■ AEP Substation | Upland Drainage Feature |
| ○ Existing Structure to be Replaced | Approximate Upland Drainage Feature |
| ● Existing Structure to Remain | Field Delineated Waterway |
| ◇ Proposed Structure | Approximate Waterway |
| ◆ Proposed Distribution Structure | Field Delineated Waterway Area |
| ⚡ Existing 138 kV Transmission Line to be Rebuilt | Field Delineated Open Water |
| ⚡ Existing Distribution Line | Approximate Open Water |
| ⚡ Proposed 138 kV Transmission Line | Field Delineated Emergent Wetland |
| 🛤️ Proposed Access Road | Field Delineated Scrub-Shrub Wetland |
| 📏 Addendum Project Area | Field Delineated Unconsolidated Bottom Wetland |
| 📏 Project Area (Previously Surveyed) | Approximate Wetland |
| 📍 Photo Location | National Wetlands Inventory Feature |
| 📐 Existing Culvert | FEMA Flood Hazard Area |
| 📐 Storm Drain | 100-year Floodplain |
| ● Wetland Determination Sample Point | Floodway |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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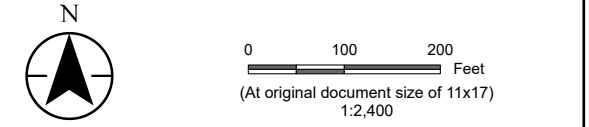


Figure No. **2**
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Addendum Wetland and Waterbody Delineation Map

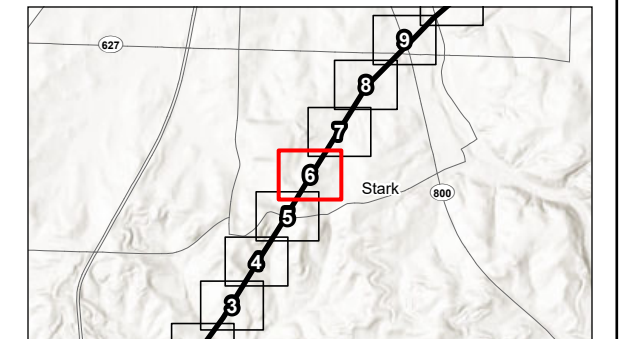
Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

Project Location
Stark County, Ohio

Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



- Legend
- | | |
|---|--|
| ■ AEP Substation | Upland Drainage Feature |
| ○ Existing Structure to be Replaced | Approximate Upland Drainage Feature |
| ● Existing Structure to Remain | Field Delineated Waterway |
| ◇ Proposed Structure | Approximate Waterway |
| ◆ Proposed Distribution Structure | Field Delineated Waterway Area |
| Existing 138 kV Transmission Line to be Rebuilt | Field Delineated Open Water |
| Existing Distribution Line | Approximate Open Water |
| Proposed 138 kV Transmission Line | Field Delineated Emergent Wetland |
| Proposed Access Road | Field Delineated Scrub-Shrub Wetland |
| Addendum Project Area | Field Delineated Unconsolidated Bottom Wetland |
| Project Area (Previously Surveyed) | Approximate Wetland |
| ○ Photo Location | National Wetlands Inventory Feature |
| △ Existing Culvert | FEMA Flood Hazard Area |
| ▲ Storm Drain | 100-year Floodplain |
| ● Wetland Determination Sample Point | Floodway |



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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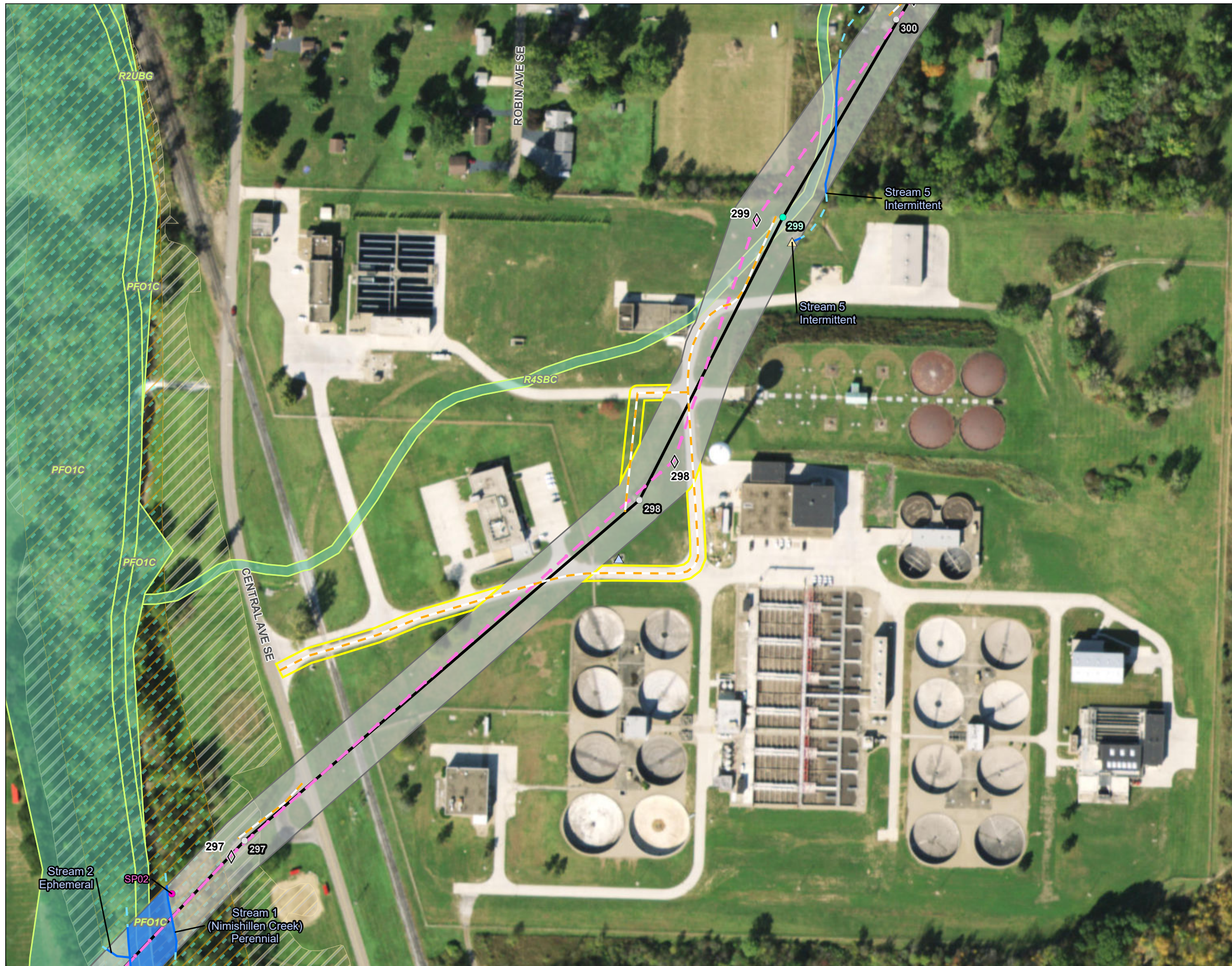


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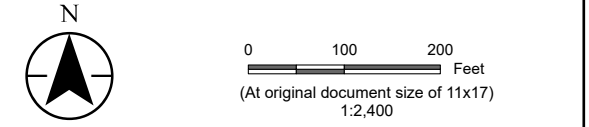
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Addendum Wetland and Waterbody Delineation Map

Client/Project
AEP Ohio Transmission Company, Inc.
South Canton-Sunnyside
138 kV Line Rebuild Project

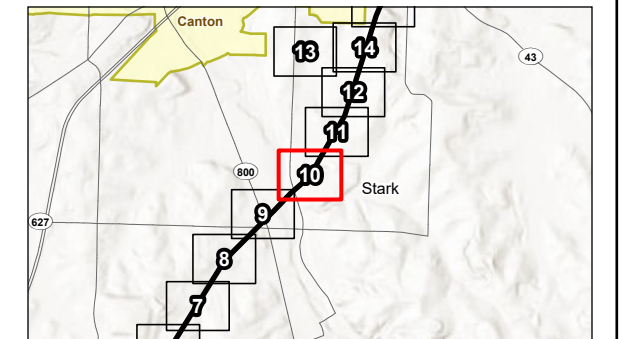
Project Location
Stark County, Ohio

193708517

Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



- Legend
- | | |
|---|--|
| ■ AEP Substation | Upland Drainage Feature |
| ○ Existing Structure to be Replaced | Approximate Upland Drainage Feature |
| ● Existing Structure to Remain | Field Delineated Waterway |
| ◇ Proposed Structure | Approximate Waterway |
| ◆ Proposed Distribution Structure | Field Delineated Waterway Area |
| Existing 138 kV Transmission Line to be Rebuilt | Field Delineated Open Water |
| Existing Distribution Line | Approximate Open Water |
| Proposed 138 kV Transmission Line | Field Delineated Emergent Wetland |
| Proposed Access Road | Field Delineated Scrub-Shrub Wetland |
| Addendum Project Area | Field Delineated Unconsolidated Bottom Wetland |
| Project Area (Previously Surveyed) | Approximate Wetland |
| ○ Photo Location | National Wetlands Inventory Feature |
| △ Existing Culvert | FEMA Flood Hazard Area |
| ▲ Storm Drain | 100-year Floodplain |
| ● Wetland Determination Sample Point | Floodway |



Notes

- Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
- Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
- Orthophotography: 2019 NAIP



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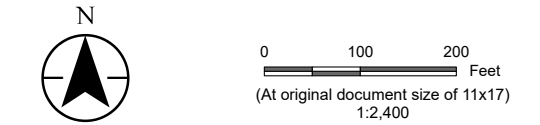
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Title

Addendum Wetland and Waterbody Delineation Map

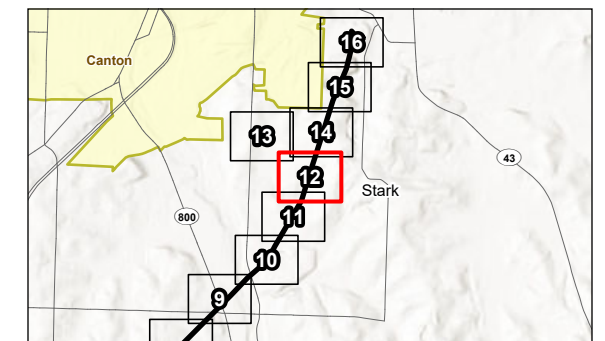
Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

Project Location
Stark County, Ohio
Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ◆ Proposed Distribution Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Existing Distribution Line
- ⚡ Proposed 138 kV Transmission Line
- ⚡ Proposed Access Road
- ▭ Addendum Project Area
- ▭ Project Area (Previously Surveyed)
- Photo Location
- ▲ Existing Culvert
- ▲ Storm Drain
- Wetland Determination Sample Point
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Field Delineated Waterway
- Approximate Waterway
- Field Delineated Waterway Area
- Field Delineated Open Water
- Approximate Open Water
- Field Delineated Emergent Wetland
- Field Delineated Scrub-Shrub Wetland
- Field Delineated Unconsolidated Bottom Wetland
- Approximate Wetland
- National Wetlands Inventory Feature
- FEMA Flood Hazard Area
- 100-year Floodplain
- Floodway



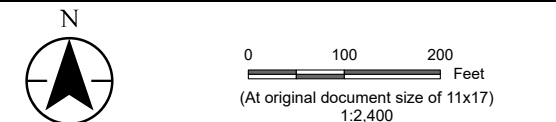
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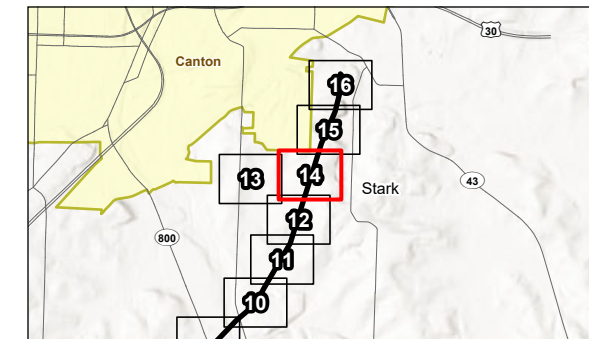
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Figure No. **2**
Addendum Wetland and Waterbody Delineation Map
 Client/Project: AEP Ohio Transmission Company, Inc. South Canton-Sunnyside 138 kV Line Rebuild Project
 Project Location: Stark County, Ohio
 Prepared by RA on 2023-01-10, TR by JS on 2023-01-10, IR by AJK on 2023-03-10



- Legend**
- AEP Substation
 - Existing Structure to be Replaced
 - Existing Structure to Remain
 - ◇ Proposed Structure
 - ◆ Proposed Distribution Structure
 - ⚡ Existing 138 kV Transmission Line to be Rebuilt
 - ⚡ Existing Distribution Line
 - ⚡ Proposed 138 kV Transmission Line
 - ⚡ Proposed Access Road
 - ▭ Addendum Project Area
 - ▭ Project Area (Previously Surveyed)
 - Photo Location
 - △ Existing Culvert
 - △ Storm Drain
 - Wetland Determination Sample Point
 - Upland Drainage Feature
 - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - Approximate Waterway
 - Field Delineated Waterway Area
 - Field Delineated Open Water
 - Approximate Open Water
 - Field Delineated Emergent Wetland
 - Field Delineated Scrub-Shrub Wetland
 - Field Delineated Unconsolidated Bottom Wetland
 - Approximate Wetland
 - National Wetlands Inventory Feature
 - FEMA Flood Hazard Area
 - 100-year Floodplain
 - Floodway



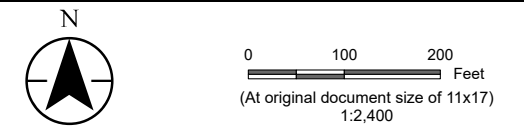
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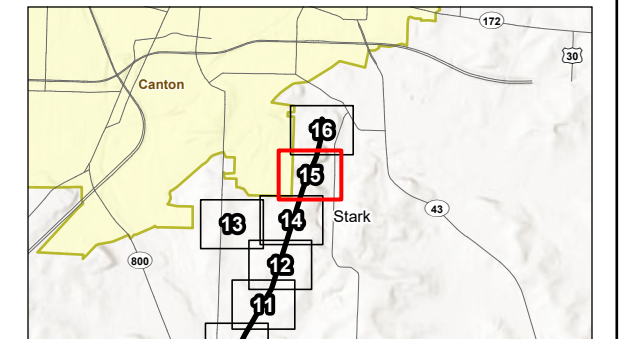
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Figure No. **2**
 Title **Addendum Wetland and Waterbody Delineation Map**
 Client/Project **AEP Ohio Transmission Company, Inc. South Canton-Sunnyside 138 kV Line Rebuild Project** 193708517
 Project Location **Stark County, Ohio** Prepared by RA on 2023-01-10 TR by JS on 2023-01-10 IR by AJK on 2023-03-10



- Legend**
- | | |
|---|--|
| ■ AEP Substation | Upland Drainage Feature |
| ○ Existing Structure to be Replaced | Approximate Upland Drainage Feature |
| ● Existing Structure to Remain | Field Delineated Waterway |
| ◇ Proposed Structure | Approximate Waterway |
| ◆ Proposed Distribution Structure | Field Delineated Waterway Area |
| Existing 138 kV Transmission Line to be Rebuilt | Field Delineated Open Water |
| Existing Distribution Line | Approximate Open Water |
| Proposed 138 kV Transmission Line | Field Delineated Emergent Wetland |
| Proposed Access Road | Field Delineated Scrub-Shrub Wetland |
| Addendum Project Area | Field Delineated Unconsolidated Bottom Wetland |
| Project Area (Previously Surveyed) | Approximate Wetland |
| ○ Photo Location | National Wetlands Inventory Feature |
| ▲ Existing Culvert | FEMA Flood Hazard Area |
| ▲ Storm Drain | 100-year Floodplain |
| ● Wetland Determination Sample Point | Floodway |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
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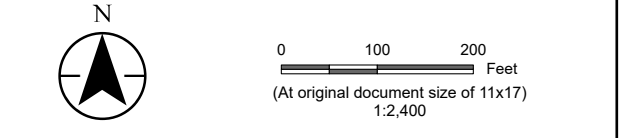


Figure No. **2**
Addendum Wetland and Waterbody Delineation Map

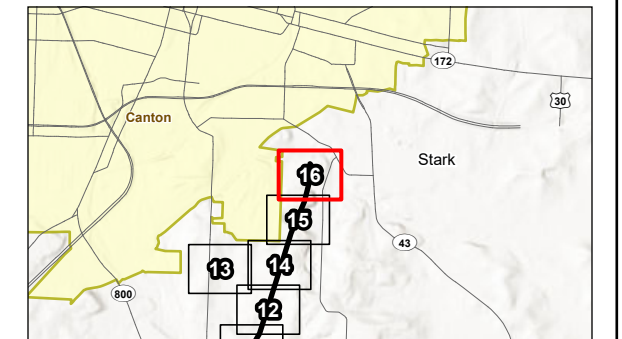
Client/Project
 AEP Ohio Transmission Company, Inc.
 South Canton-Sunnyside
 138 kV Line Rebuild Project

Project Location
 Stark County, Ohio

193708517
 Prepared by RA on 2023-01-10
 TR by JS on 2023-01-10
 IR by AJK on 2023-03-10



- Legend**
- AEP Substation
 - Existing Structure to be Replaced
 - Existing Structure to Remain
 - ◇ Proposed Structure
 - ◆ Proposed Distribution Structure
 - ⚡ Existing 138 kV Transmission Line to be Rebuilt
 - ⚡ Existing Distribution Line
 - ⚡ Proposed 138 kV Transmission Line
 - ⚡ Proposed Access Road
 - ▭ Addendum Project Area
 - ▭ Project Area (Previously Surveyed)
 - Photo Location
 - △ Existing Culvert
 - ▲ Storm Drain
 - Wetland Determination Sample Point
 - Upland Drainage Feature
 - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - Approximate Waterway
 - Field Delineated Waterway Area
 - Field Delineated Open Water
 - Approximate Open Water
 - Field Delineated Emergent Wetland
 - Field Delineated Scrub-Shrub Wetland
 - Field Delineated Unconsolidated Bottom Wetland
 - Approximate Wetland
 - National Wetlands Inventory Feature
 - FEMA Flood Hazard Area
 - 100-year Floodplain
 - Floodway



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, USFWS, FEMA, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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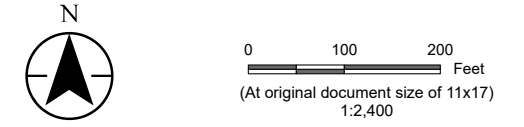


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Addendum Habitat Assessment Map

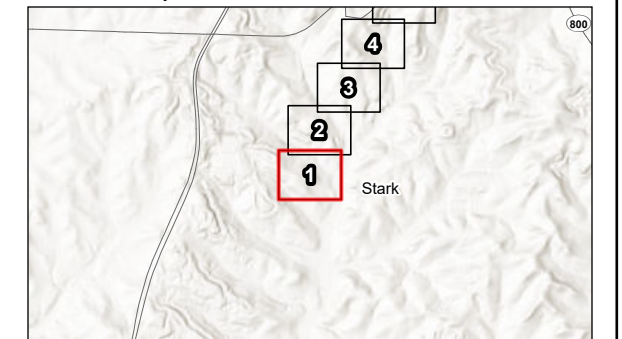
Client/Project
 AEP Ohio Transmission Company, Inc.
 South Canton-Sunnyside
 138 kV Line Rebuild Project

Project Location
 Stark County, Ohio

193708517
 Prepared by RA on 2023-01-10
 TR by JS on 2023-01-10
 IR by AJK on 2023-03-10



- Legend**
- | | |
|---|--|
| ■ AEP Substation | Field Delineated Open Water |
| ○ Existing Structure to be Replaced | Approximate Open Water |
| ● Existing Structure to Remain | Field Delineated Emergent Wetland |
| ◇ Proposed Structure | Field Delineated Scrub-Shrub Wetland |
| ◆ Proposed Distribution Structure | Field Delineated Unconsolidated Bottom Wetland |
| Existing 138 kV Transmission Line to be Rebuilt | Approximate Wetland |
| Proposed 138 kV Transmission Line | Habitat Area |
| Existing Distribution Line | Yellow Agricultural Field |
| Addendum Project Area | Orange Early Successional Deciduous Forest |
| Project Area (Previously Surveyed) | Pink Mixed Early Successional Second Growth Deciduous Forest |
| ○ Photo Location | Light Green New Field |
| △ Existing Culvert | Purple Old Field |
| ▲ Storm Drain | Red Pasture |
| Upland Drainage Feature | Light Blue Residential Lawn |
| Approximate Upland Drainage Feature | Red/White Industrial |
| Field Delineated Waterway | Grey/White Existing Paved Road |
| Approximate Waterway | White/Black Existing Gravel Road |
| Field Delineated Waterway Area | |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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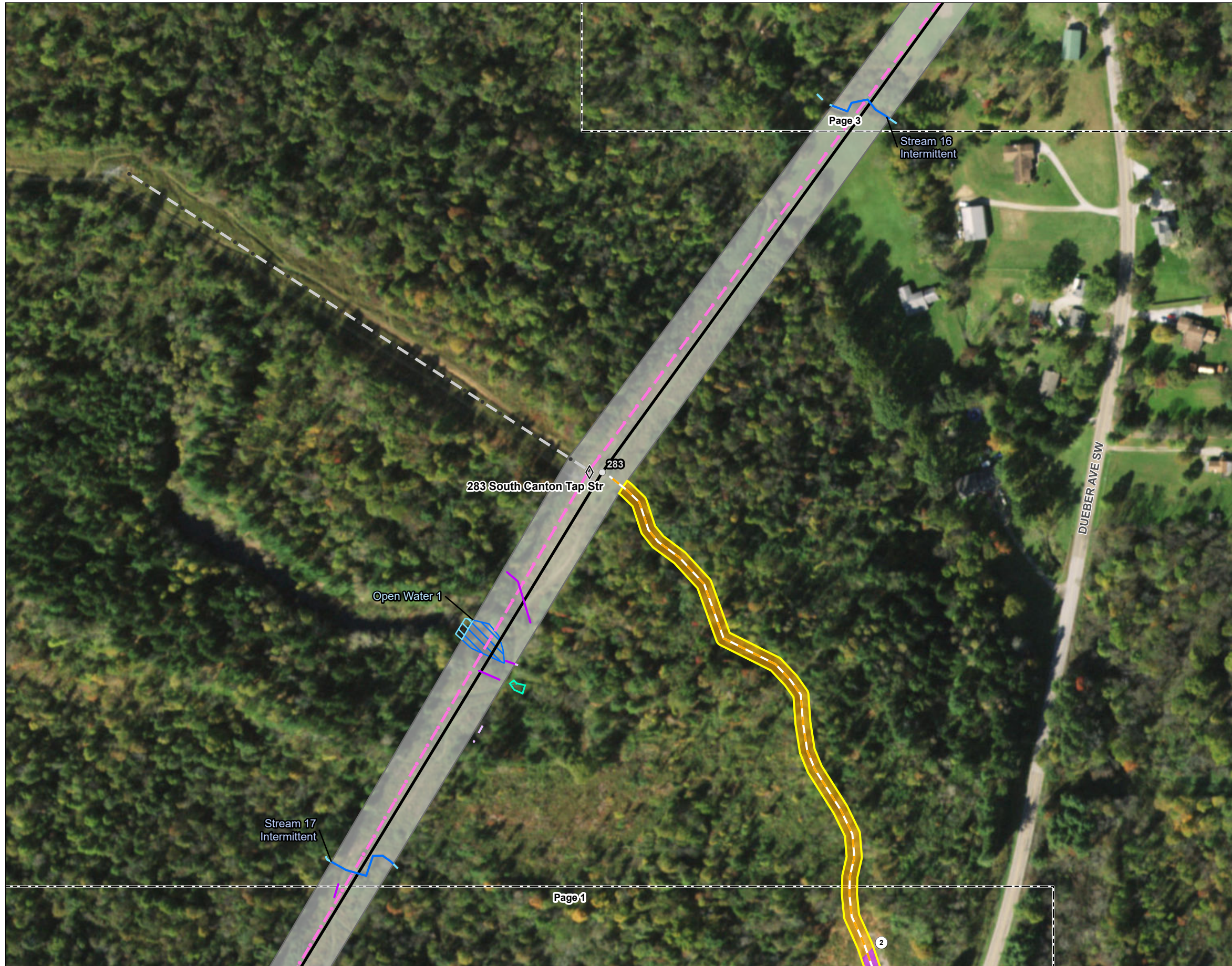
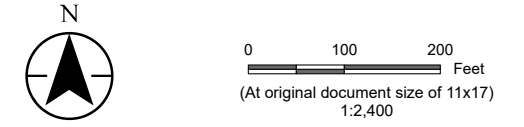


Figure No.
3
Title
Addendum Habitat Assessment Map

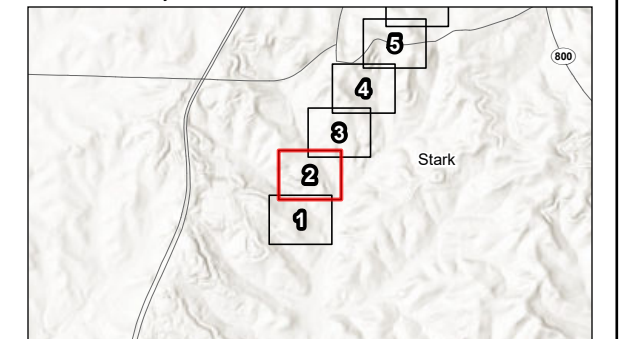
Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

Project Location
Stark County, Ohio

Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



- Legend
- | | |
|---|---|
| ■ AEP Substation | Field Delineated Open Water |
| ○ Existing Structure to be Replaced | Approximate Open Water |
| ● Existing Structure to Remain | Field Delineated Emergent Wetland |
| ◇ Proposed Structure | Field Delineated Scrub-Shrub Wetland |
| ◆ Proposed Distribution Structure | Field Delineated Unconsolidated Bottom Wetland |
| — Existing 138 kV Transmission Line to be Rebuilt | Approximate Wetland |
| - - - Proposed 138 kV Transmission Line | Habitat Area |
| — Existing Distribution Line | ■ Agricultural Field |
| ■ Addendum Project Area | ■ Early Successional Deciduous Forest |
| ■ Project Area (Previously Surveyed) | ■ Mixed Early Successional Second Growth Deciduous Forest |
| ○ Photo Location | ■ New Field |
| ▲ Existing Culvert | ■ Old Field |
| ▲ Storm Drain | ■ Pasture |
| — Upland Drainage Feature | ■ Residential Lawn |
| — Approximate Upland Drainage Feature | ■ Industrial |
| — Field Delineated Waterway | ■ Existing Paved Road |
| — Approximate Waterway | ■ Existing Gravel Road |
| — Field Delineated Waterway Area | |



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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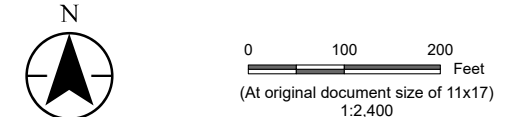


Figure No. **3**
Addendum Habitat Assessment Map

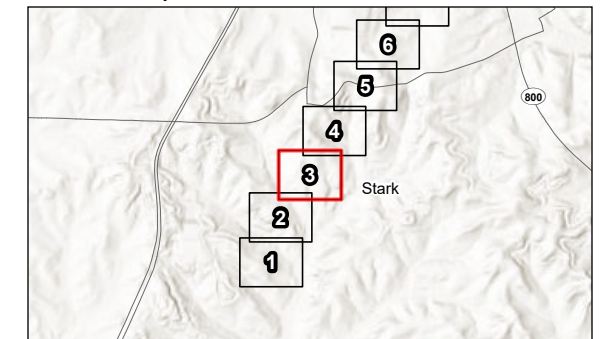
Client/Project
 AEP Ohio Transmission Company, Inc.
 South Canton-Sunnyside
 138 kV Line Rebuild Project
 193708517

Project Location
 Stark County, Ohio

Prepared by RA on 2023-01-10
 TR by JS on 2023-01-10
 IR by AJK on 2023-03-10



- Legend**
- | | |
|---|---|
| ■ AEP Substation | Field Delineated Open Water |
| ○ Existing Structure to be Replaced | Approximate Open Water |
| ● Existing Structure to Remain | Field Delineated Emergent Wetland |
| ◇ Proposed Structure | Field Delineated Scrub-Shrub Wetland |
| ◆ Proposed Distribution Structure | Field Delineated Unconsolidated Bottom Wetland |
| — Existing 138 kV Transmission Line to be Rebuilt | Approximate Wetland |
| — Proposed 138 kV Transmission Line | Habitat Area |
| — Existing Distribution Line | ■ Agricultural Field |
| ■ Addendum Project Area | ■ Early Successional Deciduous Forest |
| ■ Project Area (Previously Surveyed) | ■ Mixed Early Successional Second Growth Deciduous Forest |
| ○ Photo Location | ■ New Field |
| ▲ Existing Culvert | ■ Old Field |
| ▲ Storm Drain | ■ Pasture |
| — Upland Drainage Feature | ■ Residential Lawn |
| — Approximate Upland Drainage Feature | ■ Industrial |
| — Field Delineated Waterway | ■ Existing Paved Road |
| — Approximate Waterway | ■ Existing Gravel Road |
| — Field Delineated Waterway Area | |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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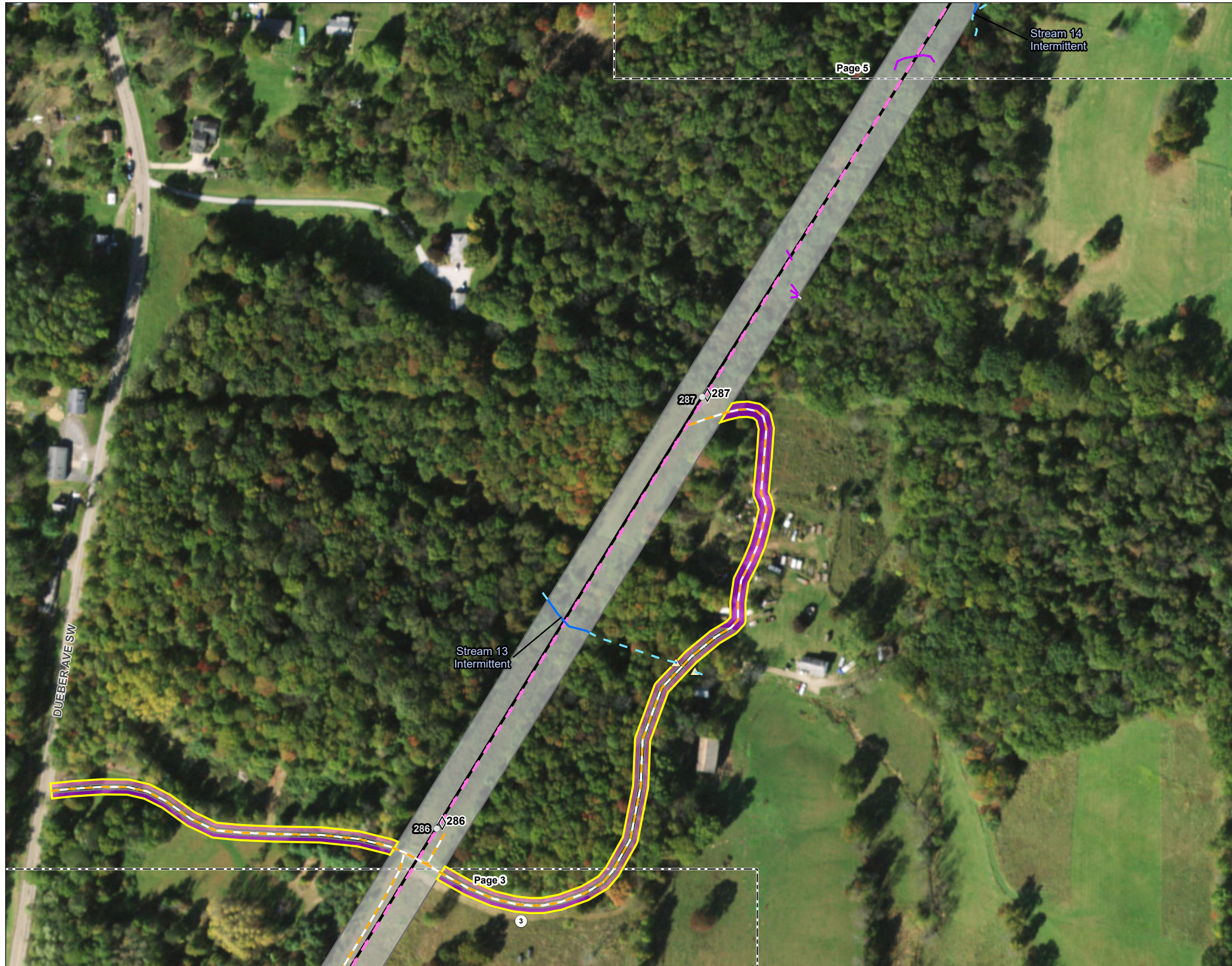
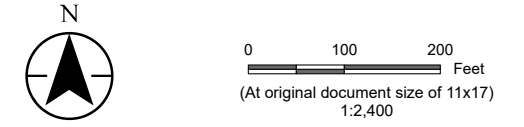


Figure No. **3**
Addendum Habitat Assessment Map

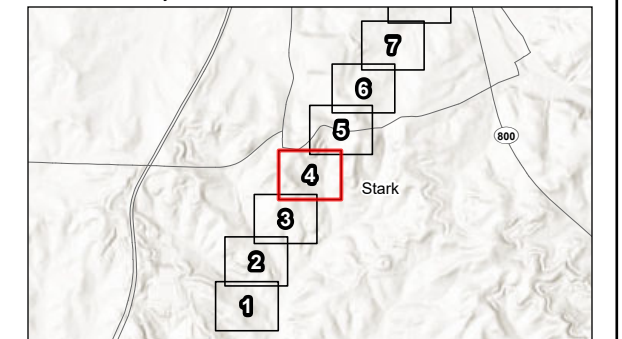
Client/Project
 AEP Ohio Transmission Company, Inc.
 South Canton-Sunnyside
 138 kV Line Rebuild Project
 193708517

Project Location
 Stark County, Ohio

Prepared by RA on 2023-01-10
 TR by JS on 2023-01-10
 IR by AJK on 2023-03-10



- Legend**
- | | |
|---|---|
| ■ AEP Substation | Field Delineated Open Water |
| ○ Existing Structure to be Replaced | Approximate Open Water |
| ● Existing Structure to Remain | Field Delineated Emergent Wetland |
| ◇ Proposed Structure | Field Delineated Scrub-Shrub Wetland |
| ◆ Proposed Distribution Structure | Field Delineated Unconsolidated Bottom Wetland |
| Existing 138 kV Transmission Line to be Rebuilt | Approximate Wetland |
| Proposed 138 kV Transmission Line | Habitat Area |
| Existing Distribution Line | ■ Agricultural Field |
| Addendum Project Area | ■ Early Successional Deciduous Forest |
| Project Area (Previously Surveyed) | ■ Mixed Early Successional Second Growth Deciduous Forest |
| ○ Photo Location | ■ New Field |
| ▲ Existing Culvert | ■ Old Field |
| ▲ Storm Drain | ■ Pasture |
| Upland Drainage Feature | ■ Residential Lawn |
| Approximate Upland Drainage Feature | ■ Industrial |
| Field Delineated Waterway | ■ Existing Paved Road |
| Approximate Waterway | ■ Existing Gravel Road |
| Field Delineated Waterway Area | |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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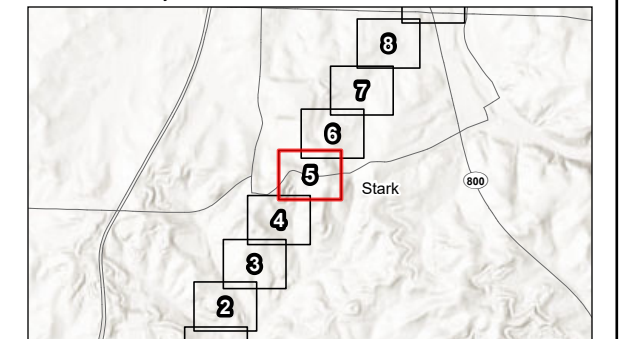
Client/Project
 AEP Ohio Transmission Company, Inc.
 South Canton-Sunnyside
 138 kV Line Rebuild Project
 193708517

Project Location
 Stark County, Ohio

Prepared by RA on 2023-01-10
 TR by JS on 2023-01-10
 IR by AJK on 2023-03-10

Legend

■ AEP Substation	Field Delineated Open Water
○ Existing Structure to be Replaced	Approximate Open Water
● Existing Structure to Remain	Field Delineated Emergent Wetland
◇ Proposed Structure	Field Delineated Scrub-Shrub Wetland
◆ Proposed Distribution Structure	Field Delineated Unconsolidated Bottom Wetland
— Existing 138 kV Transmission Line to be Rebuilt	Approximate Wetland
— Proposed 138 kV Transmission Line	Habitat Area
— Existing Distribution Line	■ Agricultural Field
■ Addendum Project Area	■ Early Successional Deciduous Forest
■ Project Area (Previously Surveyed)	■ Mixed Early Successional Second Growth Deciduous Forest
○ Photo Location	■ New Field
▲ Existing Culvert	■ Old Field
▲ Storm Drain	■ Pasture
— Upland Drainage Feature	■ Residential Lawn
— Approximate Upland Drainage Feature	■ Industrial
— Field Delineated Waterway	■ Existing Paved Road
— Approximate Waterway	■ Existing Gravel Road
— Field Delineated Waterway Area	



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
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 3. Orthophotography: 2019 NAIP



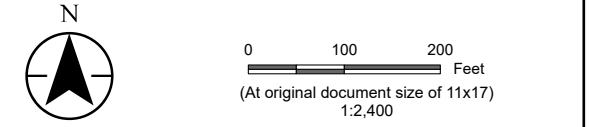
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Figure No. **3**
Title **Addendum Habitat Assessment Map**

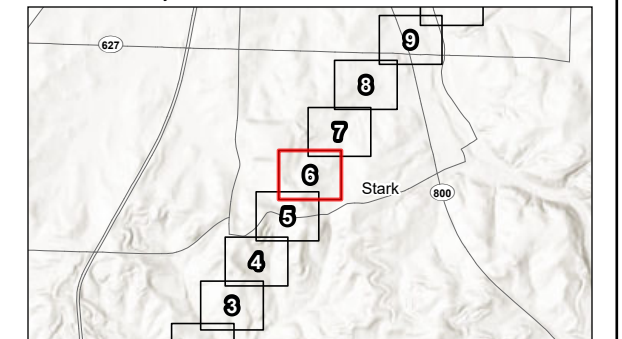
Client/Project: AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

Project Location: Stark County, Ohio
Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



Legend

■ AEP Substation	Field Delineated Open Water
○ Existing Structure to be Replaced	Approximate Open Water
● Existing Structure to Remain	Field Delineated Emergent Wetland
◇ Proposed Structure	Field Delineated Scrub-Shrub Wetland
◆ Proposed Distribution Structure	Field Delineated Unconsolidated Bottom Wetland
Existing 138 kV Transmission Line to be Rebuilt	Approximate Wetland
Proposed 138 kV Transmission Line	Habitat Area
Existing Distribution Line	■ Agricultural Field
Addendum Project Area	■ Early Successional Deciduous Forest
Project Area (Previously Surveyed)	■ Mixed Early Successional Second Growth Deciduous Forest
○ Photo Location	■ New Field
▲ Existing Culvert	■ Old Field
▲ Storm Drain	■ Pasture
Upland Drainage Feature	■ Residential Lawn
Approximate Upland Drainage Feature	■ Industrial
Field Delineated Waterway	■ Existing Paved Road
Approximate Waterway	■ Existing Gravel Road
Field Delineated Waterway Area	



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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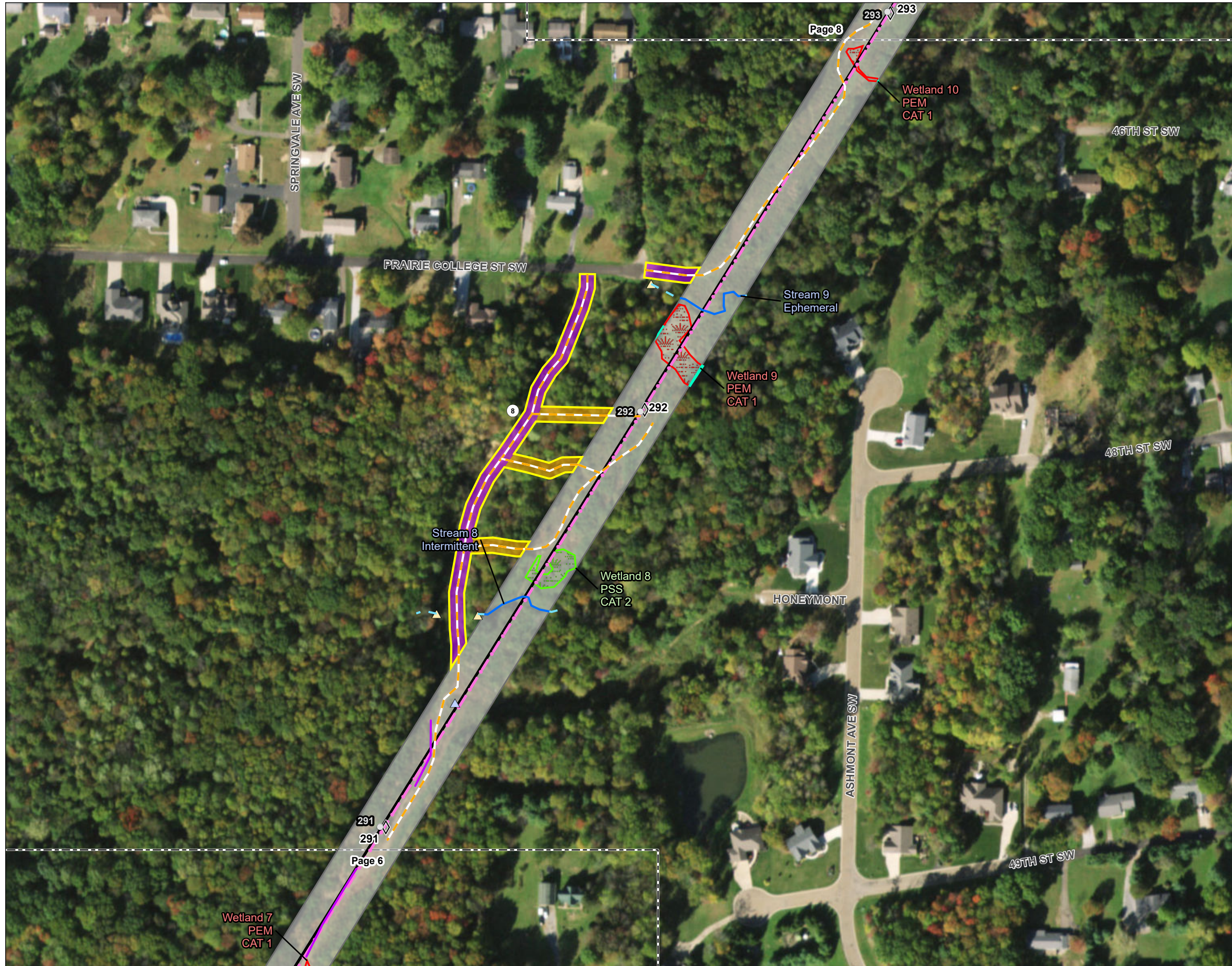
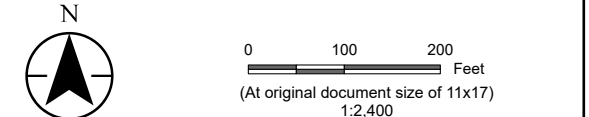


Figure No. **3**
Addendum Habitat Assessment Map

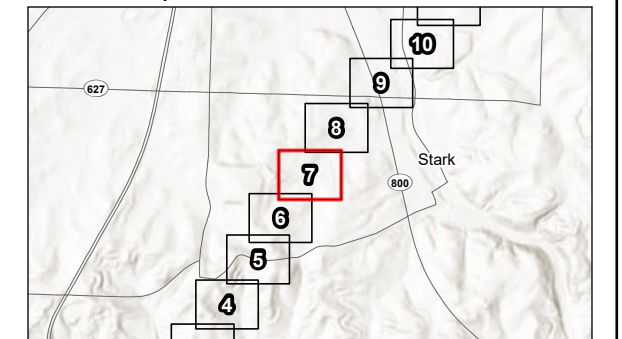
Client/Project: AEP Ohio Transmission Company, Inc. 193708517
 South Canton-Sunnyside
 138 kV Line Rebuild Project

Project Location: Stark County, Ohio
 Prepared by RA on 2023-01-10
 TR by JS on 2023-01-10
 IR by AJK on 2023-03-10



Legend

■ AEP Substation	Field Delineated Open Water
○ Existing Structure to be Replaced	Approximate Open Water
● Existing Structure to Remain	Field Delineated Emergent Wetland
◇ Proposed Structure	Field Delineated Scrub-Shrub Wetland
◆ Proposed Distribution Structure	Field Delineated Unconsolidated Bottom Wetland
— Existing 138 kV Transmission Line to be Rebuilt	Approximate Wetland
— Proposed 138 kV Transmission Line	Habitat Area
— Existing Distribution Line	■ Agricultural Field
■ Addendum Project Area	■ Early Successional Deciduous Forest
■ Project Area (Previously Surveyed)	■ Mixed Early Successional Second Growth Deciduous Forest
○ Photo Location	■ New Field
▲ Existing Culvert	■ Old Field
▲ Storm Drain	■ Pasture
— Upland Drainage Feature	■ Residential Lawn
— Approximate Upland Drainage Feature	■ Industrial
— Field Delineated Waterway	■ Existing Paved Road
— Approximate Waterway	■ Existing Gravel Road
— Field Delineated Waterway Area	



Notes
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 3. Orthophotography: 2019 NAIP



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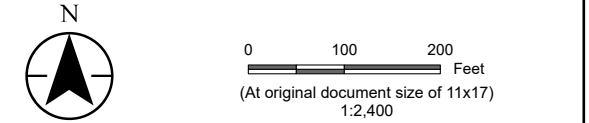


Figure No. **3**

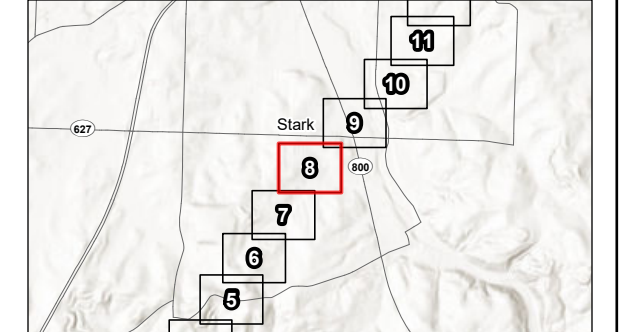
Title **Addendum Habitat Assessment Map**

Client/Project **AEP Ohio Transmission Company, Inc. South Canton-Sunnyside 138 kV Line Rebuild Project** 193708517

Project Location **Stark County, Ohio** Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



- Legend**
- AEP Substation
 - Existing Structure to be Replaced
 - Existing Structure to Remain
 - ◇ Proposed Structure
 - ◆ Proposed Distribution Structure
 - Existing 138 kV Transmission Line to be Rebuilt
 - Proposed 138 kV Transmission Line
 - Existing Distribution Line
 - ▭ Addendum Project Area
 - ▭ Project Area (Previously Surveyed)
 - Photo Location
 - ▲ Existing Culvert
 - ▲ Storm Drain
 - Upland Drainage Feature
 - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - Approximate Waterway
 - Field Delineated Waterway Area
 - Field Delineated Open Water
 - Approximate Open Water
 - Field Delineated Emergent Wetland
 - Field Delineated Scrub-Shrub Wetland
 - Field Delineated Unconsolidated Bottom Wetland
 - Approximate Wetland
 - ▭ Habitat Area
 - ▭ Agricultural Field
 - ▭ Early Successional Deciduous Forest
 - ▭ Mixed Early Successional Second Growth Deciduous Forest
 - ▭ New Field
 - ▭ Old Field
 - ▭ Pasture
 - ▭ Residential Lawn
 - ▭ Industrial
 - ▭ Existing Paved Road
 - ▭ Existing Gravel Road



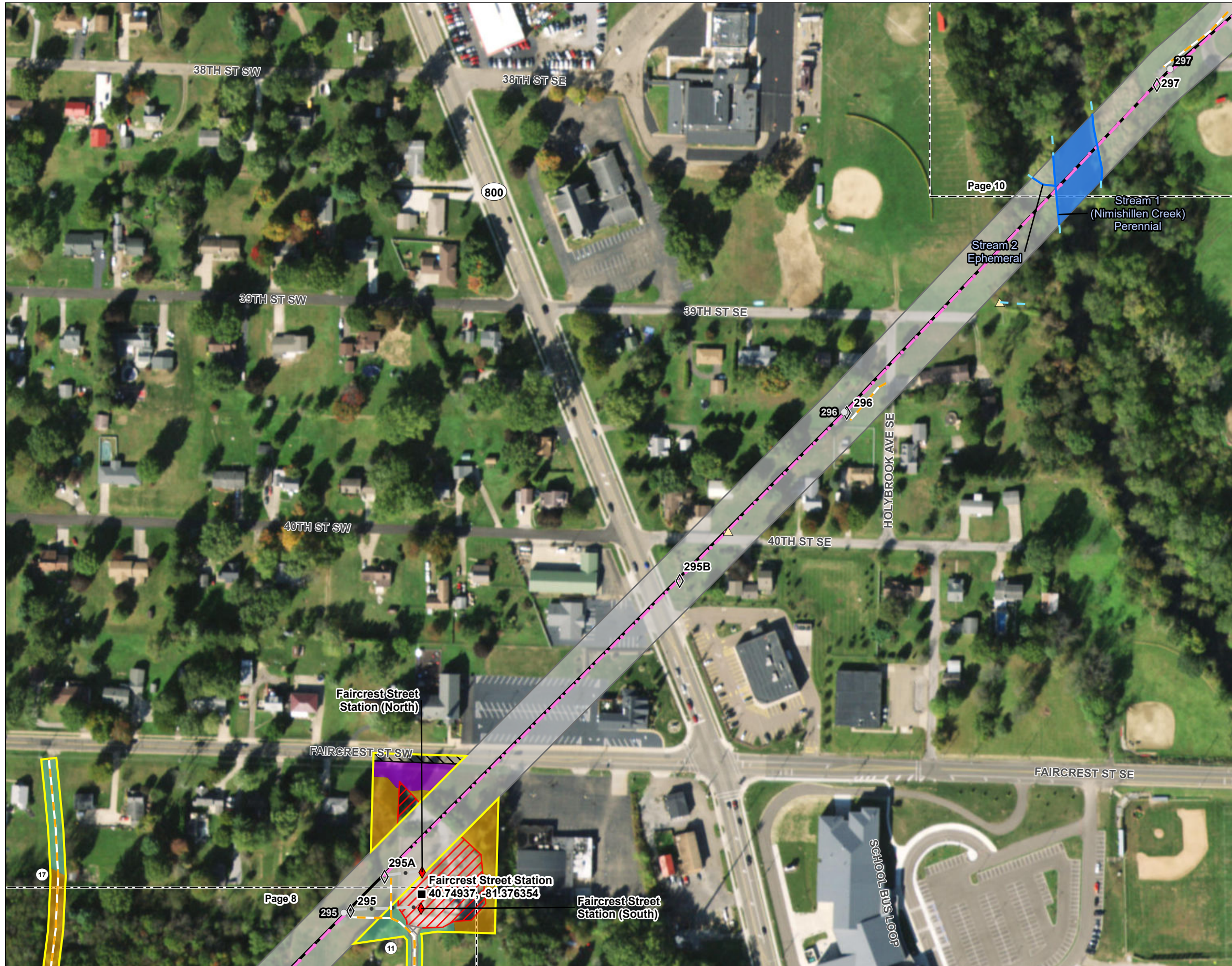
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- Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
- Data Sources: Stantec, AEP, USGS, NADS, OGRIP
- Orthophotography: 2019 NAIIP



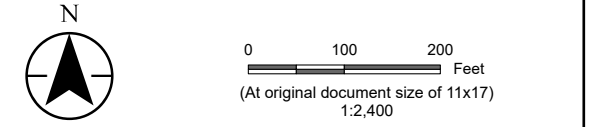
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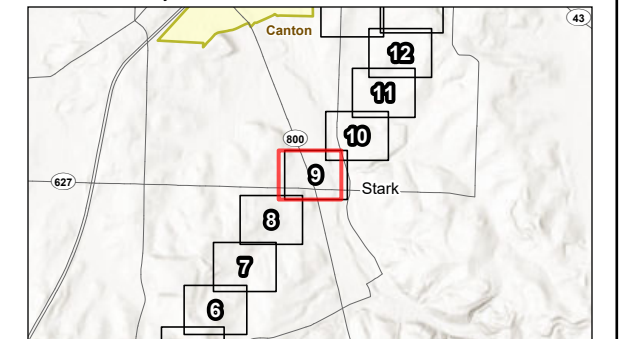


Client/Project: AEP Ohio Transmission Company, Inc. 193708517
 South Canton-Sunnyside
 138 kV Line Rebuild Project

Project Location: Stark County, Ohio
 Prepared by RA on 2023-01-10
 TR by JS on 2023-01-10
 IR by AJK on 2023-03-10



- Legend**
- | | |
|---|---|
| ■ AEP Substation | Field Delineated Open Water |
| ○ Existing Structure to be Replaced | Approximate Open Water |
| ● Existing Structure to Remain | Field Delineated Emergent Wetland |
| ◇ Proposed Structure | Field Delineated Scrub-Shrub Wetland |
| ◆ Proposed Distribution Structure | Field Delineated Unconsolidated Bottom Wetland |
| ⚡ Existing 138 kV Transmission Line to be Rebuilt | Approximate Wetland |
| ⚡ Proposed 138 kV Transmission Line | Habitat Area |
| ⚡ Existing Distribution Line | ■ Agricultural Field |
| ▭ Addendum Project Area | ■ Early Successional Deciduous Forest |
| ▭ Project Area (Previously Surveyed) | ■ Mixed Early Successional Second Growth Deciduous Forest |
| ○ Photo Location | ■ New Field |
| ▲ Existing Culvert | ■ Old Field |
| ▲ Storm Drain | ■ Pasture |
| ⤴ Upland Drainage Feature | ■ Residential Lawn |
| ⤴ Approximate Upland Drainage Feature | ■ Industrial |
| ⤴ Field Delineated Waterway | ▨ Existing Paved Road |
| ⤴ Approximate Waterway | ▨ Existing Gravel Road |
| ⤴ Field Delineated Waterway Area | |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP

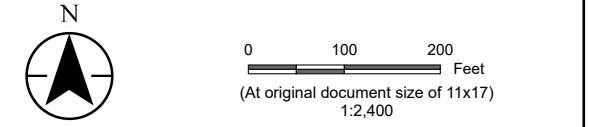


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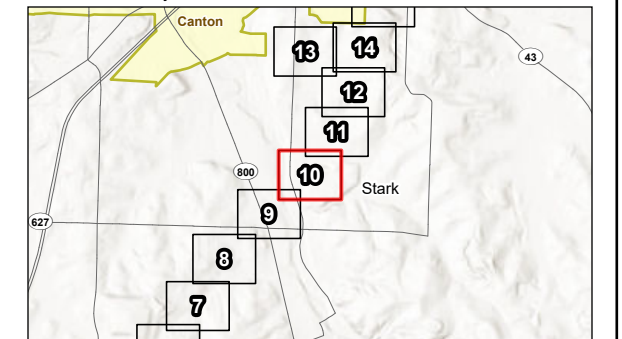


Figure No. **3**
Title **Addendum Habitat Assessment Map**

Client/Project: AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project
Project Location: Stark County, Ohio
Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



- Legend**
- AEP Substation
 - Existing Structure to be Replaced
 - Existing Structure to Remain
 - ◇ Proposed Structure
 - ◆ Proposed Distribution Structure
 - ⚡ Existing 138 kV Transmission Line to be Rebuilt
 - ⚡ Proposed 138 kV Transmission Line
 - ⚡ Existing Distribution Line
 - ▨ Addendum Project Area
 - ▨ Project Area (Previously Surveyed)
 - Photo Location
 - ▲ Existing Culvert
 - ▲ Storm Drain
 - ⤴ Upland Drainage Feature
 - ⤴ Approximate Upland Drainage Feature
 - ⤴ Field Delineated Waterway
 - ⤴ Approximate Waterway
 - ⤴ Field Delineated Waterway Area
 - ⤴ Field Delineated Open Water
 - ⤴ Approximate Open Water
 - ⤴ Field Delineated Emergent Wetland
 - ⤴ Field Delineated Scrub-Shrub Wetland
 - ⤴ Field Delineated Unconsolidated Bottom Wetland
 - ⤴ Approximate Wetland
- Habitat Area**
- Agricultural Field
 - Early Successional Deciduous Forest
 - Mixed Early Successional Second Growth Deciduous Forest
 - New Field
 - Old Field
 - Pasture
 - Residential Lawn
 - Industrial
 - ▨ Existing Paved Road
 - ▨ Existing Gravel Road



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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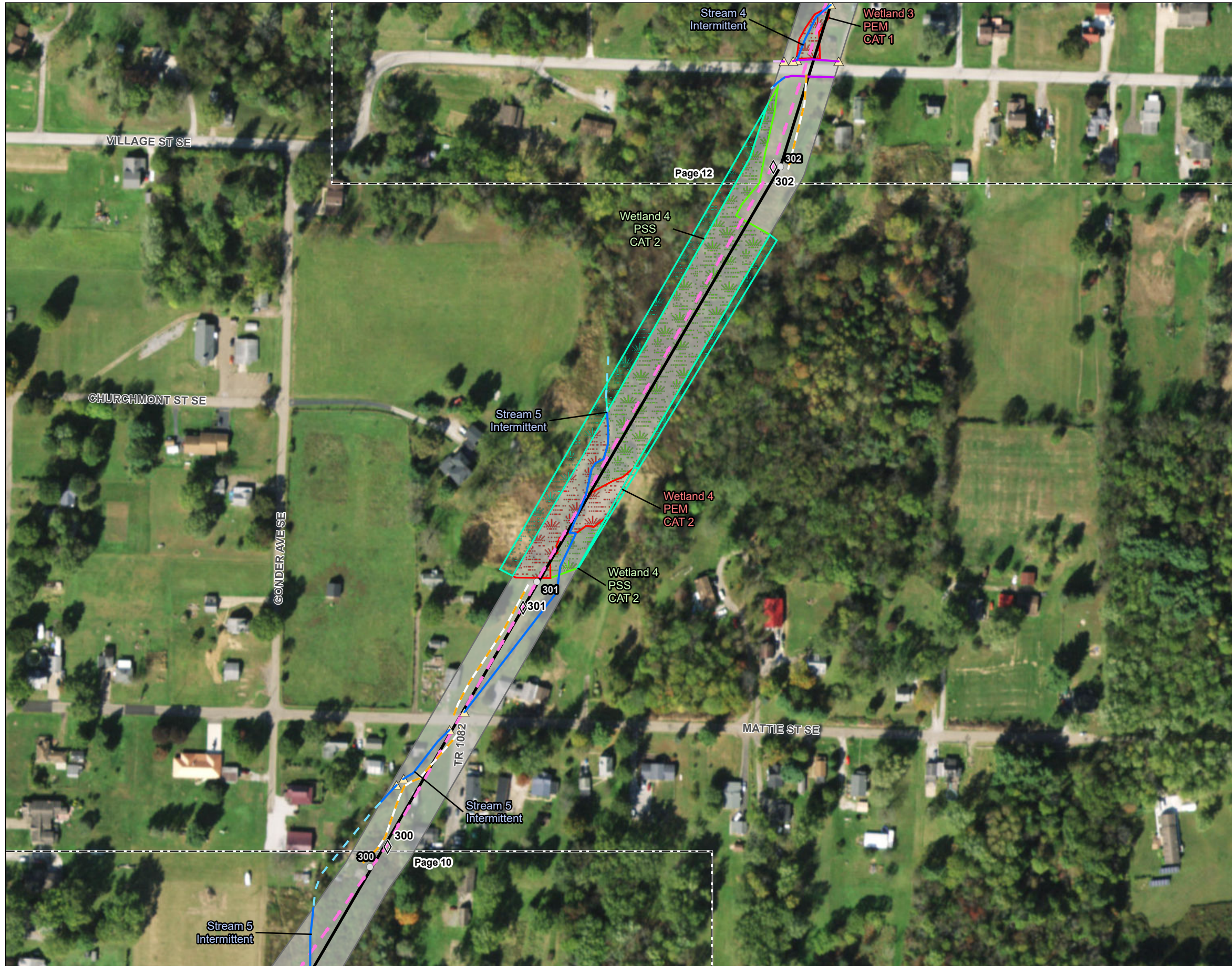
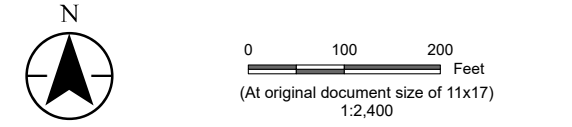


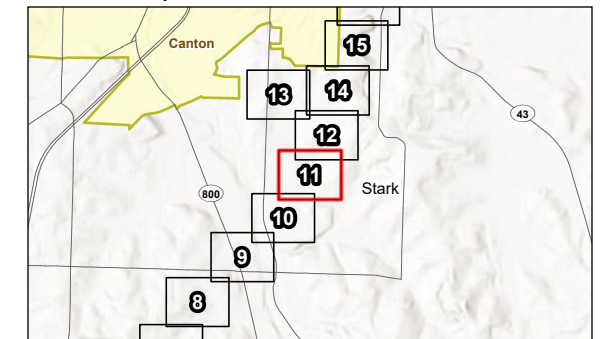
Figure No. **3**
Title **Addendum Habitat Assessment Map**

Client/Project: AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

Project Location: Stark County, Ohio
Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



- Legend**
- AEP Substation
 - Existing Structure to be Replaced
 - Existing Structure to Remain
 - ◇ Proposed Structure
 - ◆ Proposed Distribution Structure
 - Existing 138 kV Transmission Line to be Rebuilt
 - - - Proposed 138 kV Transmission Line
 - - - Existing Distribution Line
 - ▭ Addendum Project Area
 - ▭ Project Area (Previously Surveyed)
 - Photo Location
 - △ Existing Culvert
 - ▲ Storm Drain
 - Upland Drainage Feature
 - - - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - - - Approximate Waterway
 - Field Delineated Waterway Area
 - Field Delineated Open Water
 - Approximate Open Water
 - Field Delineated Emergent Wetland
 - Field Delineated Scrub-Shrub Wetland
 - Field Delineated Unconsolidated Bottom Wetland
 - Approximate Wetland
 - Habitat Area
 - Agricultural Field
 - Early Successional Deciduous Forest
 - Mixed Early Successional Second Growth Deciduous Forest
 - New Field
 - Old Field
 - Pasture
 - Residential Lawn
 - Industrial
 - Existing Paved Road
 - Existing Gravel Road



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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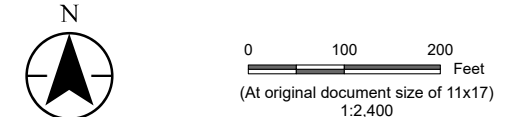


Figure No. **3**
Addendum Habitat Assessment Map

Client/Project
 AEP Ohio Transmission Company, Inc.
 South Canton-Sunnyside
 138 kV Line Rebuild Project

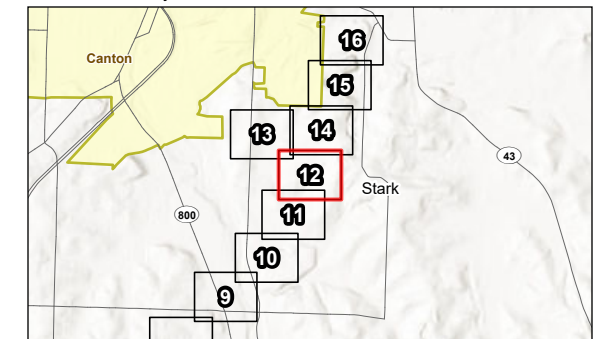
Project Location
 Stark County, Ohio

193708517
 Prepared by RA on 2023-01-10
 TR by JS on 2023-01-10
 IR by AJK on 2023-03-10



Legend

■ AEP Substation	Field Delineated Open Water
○ Existing Structure to be Replaced	Approximate Open Water
● Existing Structure to Remain	Field Delineated Emergent Wetland
◇ Proposed Structure	Field Delineated Scrub-Shrub Wetland
◆ Proposed Distribution Structure	Field Delineated Unconsolidated Bottom Wetland
Existing 138 kV Transmission Line to be Rebuilt	Approximate Wetland
Proposed 138 kV Transmission Line	Habitat Area
Existing Distribution Line	Agricultural Field
Addendum Project Area	Early Successional Deciduous Forest
Project Area (Previously Surveyed)	Mixed Early Successional Second Growth Deciduous Forest
○ Photo Location	New Field
△ Existing Culvert	Old Field
△ Storm Drain	Pasture
Upland Drainage Feature	Residential Lawn
Approximate Upland Drainage Feature	Industrial
Field Delineated Waterway	Existing Paved Road
Approximate Waterway	Existing Gravel Road
Field Delineated Waterway Area	



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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Figure No.

3

Title

Addendum Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

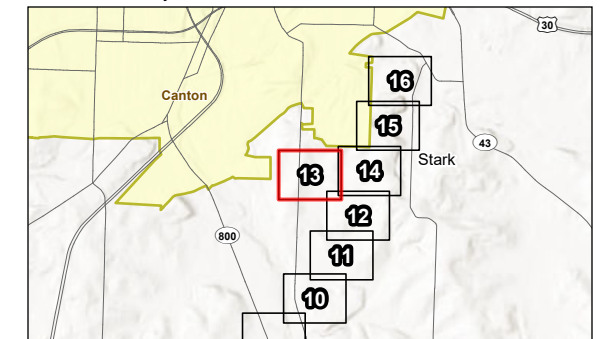
Project Location
Stark County, Ohio
Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- AEP Substation
- Existing Structure to be Replaced
- Existing Structure to Remain
- ◇ Proposed Structure
- ◆ Proposed Distribution Structure
- ⚡ Existing 138 kV Transmission Line to be Rebuilt
- ⚡ Proposed 138 kV Transmission Line
- ⚡ Existing Distribution Line
- ▭ Addendum Project Area
- ▭ Project Area (Previously Surveyed)
- Photo Location
- ▲ Existing Culvert
- ▲ Storm Drain
- ⤴ Upland Drainage Feature
- ⤴ Approximate Upland Drainage Feature
- ⤴ Field Delineated Waterway
- ⤴ Approximate Waterway
- ⤴ Field Delineated Waterway Area
- ⦶ Field Delineated Open Water
- ⦶ Approximate Open Water
- ⦶ Field Delineated Emergent Wetland
- ⦶ Field Delineated Scrub-Shrub Wetland
- ⦶ Field Delineated Unconsolidated Bottom Wetland
- ⦶ Approximate Wetland
- Habitat Area**
- ▭ Agricultural Field
- ▭ Early Successional Deciduous Forest
- ▭ Mixed Early Successional Second Growth Deciduous Forest
- ▭ New Field
- ▭ Old Field
- ▭ Pasture
- ▭ Residential Lawn
- ▭ Industrial
- ▭ Existing Paved Road
- ▭ Existing Gravel Road



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP



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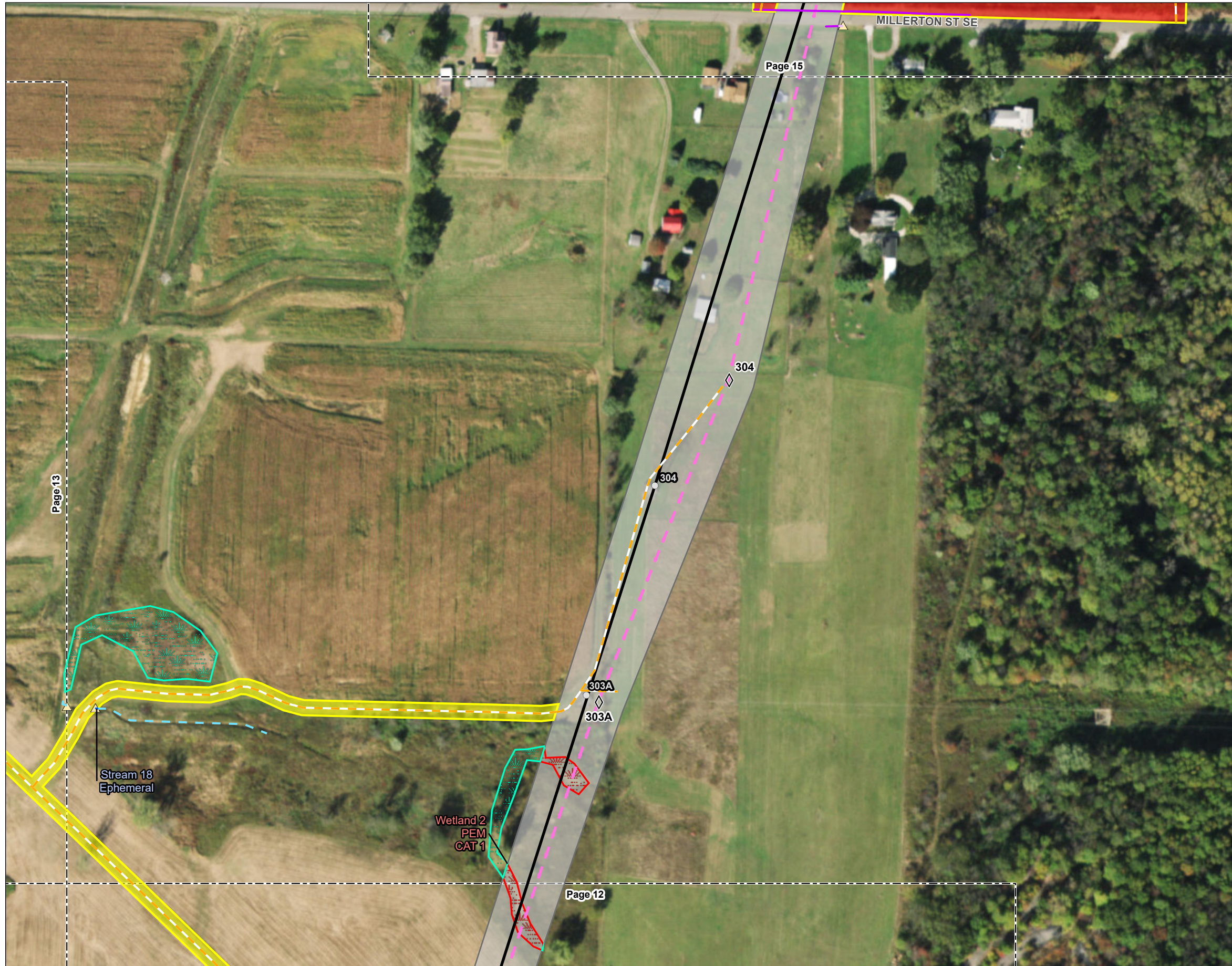


Figure No.

3

Title

Addendum Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project

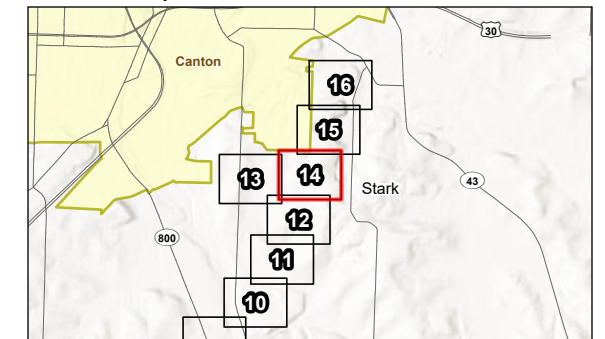
Project Location
Stark County, Ohio
Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



0 100 200 Feet
(At original document size of 11x17)
1:2,400

Legend

- | | |
|---|---|
| ■ AEP Substation | Field Delineated Open Water |
| ○ Existing Structure to be Replaced | Approximate Open Water |
| ● Existing Structure to Remain | Field Delineated Emergent Wetland |
| ◇ Proposed Structure | Field Delineated Scrub-Shrub Wetland |
| ◆ Proposed Distribution Structure | Field Delineated Unconsolidated Bottom Wetland |
| — Existing 138 kV Transmission Line to be Rebuilt | Approximate Wetland |
| - - - Proposed 138 kV Transmission Line | Habitat Area |
| — Existing Distribution Line | ■ Agricultural Field |
| ■ Addendum Project Area | ■ Early Successional Deciduous Forest |
| ■ Project Area (Previously Surveyed) | ■ Mixed Early Successional Second Growth Deciduous Forest |
| ○ Photo Location | ■ New Field |
| ▲ Existing Culvert | ■ Old Field |
| ▲ Storm Drain | ■ Pasture |
| — Upland Drainage Feature | ■ Residential Lawn |
| — Approximate Upland Drainage Feature | ■ Industrial |
| — Field Delineated Waterway | ■ Existing Paved Road |
| — Approximate Waterway | ■ Existing Gravel Road |
| — Field Delineated Waterway Area | |



- Notes**
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



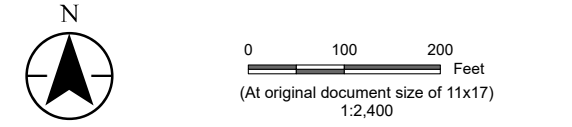
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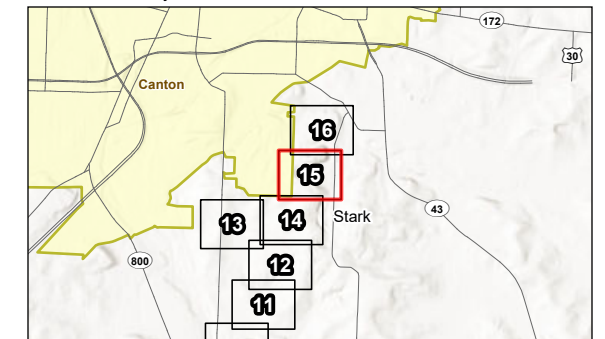
Figure No. **3**
Addendum Habitat Assessment Map

Client/Project: AEP Ohio Transmission Company, Inc. 193708517
 South Canton-Sunnyside
 138 kV Line Rebuild Project

Project Location: Stark County, Ohio
 Prepared by RA on 2023-01-10
 TR by JS on 2023-01-10
 IR by AJK on 2023-03-10



- Legend**
- | | |
|---|---|
| ■ AEP Substation | Field Delineated Open Water |
| ○ Existing Structure to be Replaced | Approximate Open Water |
| ● Existing Structure to Remain | Field Delineated Emergent Wetland |
| ◇ Proposed Structure | Field Delineated Scrub-Shrub Wetland |
| ◆ Proposed Distribution Structure | Field Delineated Unconsolidated Bottom Wetland |
| — Existing 138 kV Transmission Line to be Rebuilt | Approximate Wetland |
| — Proposed 138 kV Transmission Line | Habitat Area |
| — Existing Distribution Line | ■ Agricultural Field |
| ■ Addendum Project Area | ■ Early Successional Deciduous Forest |
| ■ Project Area (Previously Surveyed) | ■ Mixed Early Successional Second Growth Deciduous Forest |
| ○ Photo Location | ■ New Field |
| ▲ Existing Culvert | ■ Old Field |
| ▲ Storm Drain | ■ Pasture |
| — Upland Drainage Feature | ■ Residential Lawn |
| — Approximate Upland Drainage Feature | ■ Industrial |
| — Field Delineated Waterway | ■ Existing Paved Road |
| — Approximate Waterway | ■ Existing Gravel Road |
| — Field Delineated Waterway Area | |



Notes
 1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
 3. Orthophotography: 2019 NAIP



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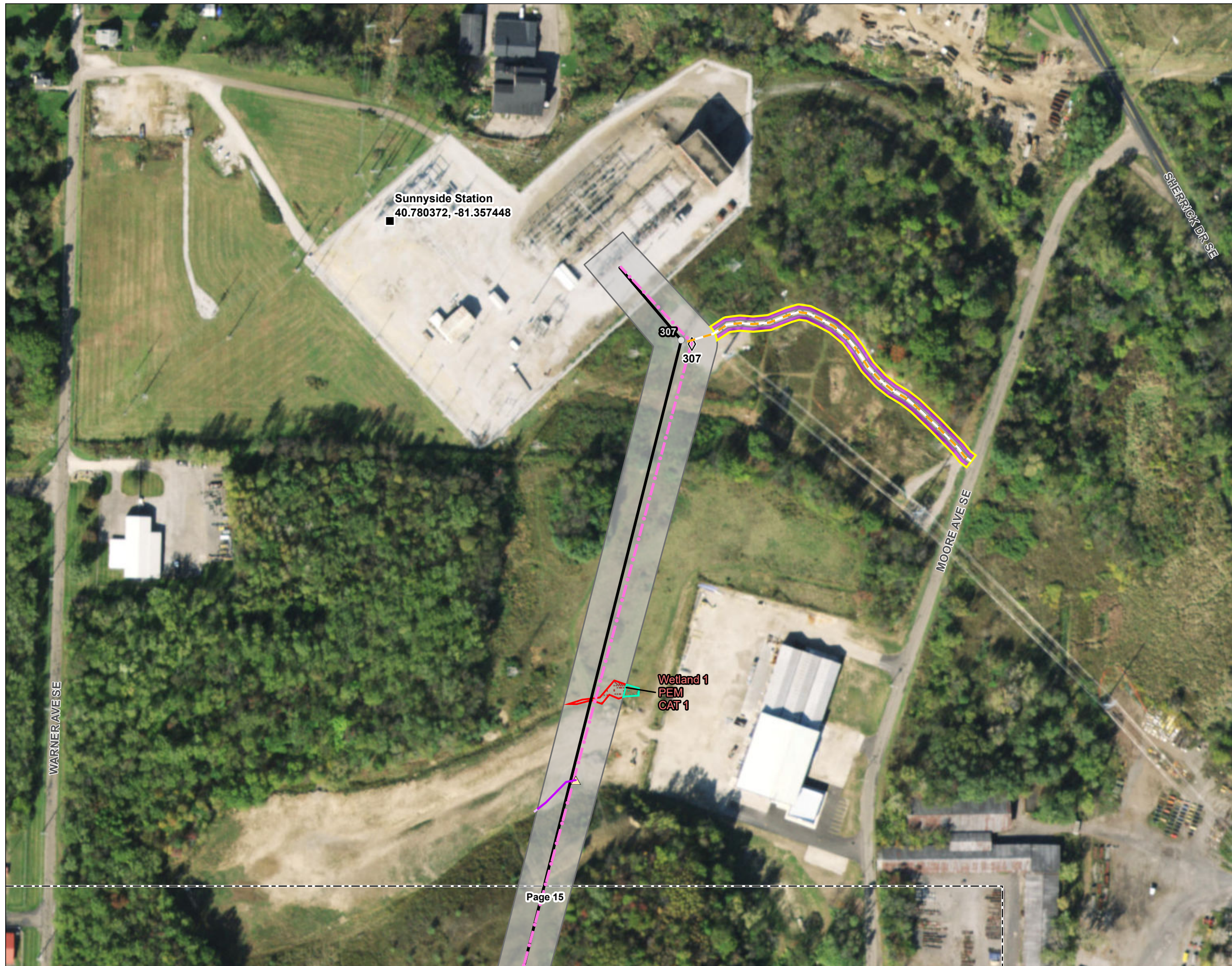
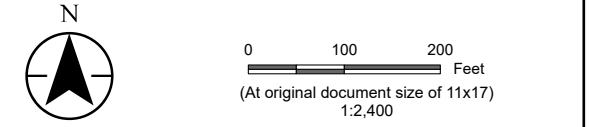
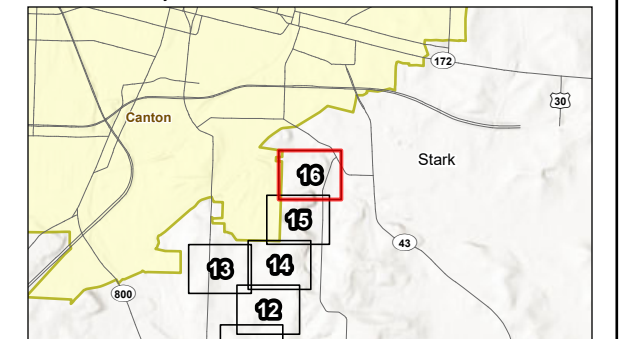


Figure No. **3**
Title **Addendum Habitat Assessment Map**

Client/Project: AEP Ohio Transmission Company, Inc. 193708517
South Canton-Sunnyside
138 kV Line Rebuild Project
Project Location: Stark County, Ohio
Prepared by RA on 2023-01-10
TR by JS on 2023-01-10
IR by AJK on 2023-03-10



- Legend
- AEP Substation
 - Existing Structure to be Replaced
 - Existing Structure to Remain
 - ◇ Proposed Structure
 - ◆ Proposed Distribution Structure
 - Existing 138 kV Transmission Line to be Rebuilt
 - - - Proposed 138 kV Transmission Line
 - - - Existing Distribution Line
 - ▭ Addendum Project Area
 - ▭ Project Area (Previously Surveyed)
 - Photo Location
 - △ Existing Culvert
 - △ Storm Drain
 - Upland Drainage Feature
 - - - Approximate Upland Drainage Feature
 - Field Delineated Waterway
 - - - Approximate Waterway
 - Field Delineated Waterway Area
 - Field Delineated Open Water
 - Approximate Open Water
 - Field Delineated Emergent Wetland
 - Field Delineated Scrub-Shrub Wetland
 - Field Delineated Unconsolidated Bottom Wetland
 - Approximate Wetland
 - Habitat Area**
 - Agricultural Field
 - Early Successional Deciduous Forest
 - Mixed Early Successional Second Growth Deciduous Forest
 - New Field
 - Old Field
 - Pasture
 - Residential Lawn
 - Industrial
 - Existing Paved Road
 - Existing Gravel Road



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2019 NAIP





Photograph Location 1. Representative view of an upland drainage feature and existing culvert within the Project area. Photograph taken facing north.



Photograph Location 1. Representative view of an upland drainage feature within the Project area. Photograph taken facing south.



Photograph Location 2. View of Stream 18. Photograph taken facing upstream/east.



Photograph Location 2. View of Stream 18 and existing culvert. Photograph taken facing downstream/west.



Photograph Location 2. View of substrates of Stream 18.



Photograph Location 3. Representative view of an upland drainage feature within the Project area. Photograph taken facing south.



Photograph Location 4. View of Stream 19. Photograph taken facing upstream/west.



Photograph Location 4. View of Stream 19. Photograph taken facing downstream/east.



Photograph Location 4. View of substrates of Stream 19.



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3) **48**

SITE NAME/LOCATION South Canton - Sunnyside 138KV Line Rebuild Project
 SITE NUMBER Stream 18 RIVER BASIN Muskingum RIVER CODE _____ DRAINAGE AREA (mi²) 0.05
 LENGTH OF STREAM REACH (ft) 3 LAT 40.768133° N LONG 81.364015° W RIVER MILE _____
 DATE 12/21/22 SCORER MCKB COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table border="0"> <thead> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLD R SLABS [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> SILT [3 pt]</td> <td><u>15</u></td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>20</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> SAND (<2mm) [6 pts]</td> <td><u>65</u></td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____ (A) _____ (B) _____</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 3</p>		TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLD R SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	<u>15</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>20</u>	<input type="checkbox"/> MUCK [0 pts]	_____	<input checked="" type="checkbox"/> SAND (<2mm) [6 pts]	<u>65</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <p>18</p> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																											
<input type="checkbox"/> BLD R SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pt]	<u>15</u>																											
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____																											
<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____																											
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____																											
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>20</u>	<input type="checkbox"/> MUCK [0 pts]	_____																											
<input checked="" type="checkbox"/> SAND (<2mm) [6 pts]	<u>65</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____																											
<p>2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</p> <table border="0"> <tbody> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </tbody> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 20</p>		<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]	<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p>Pool Depth Max = 30</p> <p>25</p>																						
<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]																													
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]																													
<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]																													
<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):</p> <table border="0"> <tbody> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </tbody> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 1</p>		<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max=30</p> <p>5</p>																						
<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]																													
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]																													
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																														

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/> Wide >10m	<input type="checkbox"/>	<input type="checkbox"/> Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/> Moderate 5-10m	<input type="checkbox"/>	<input type="checkbox"/> Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/> Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/> Residential, Park, New Field
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> None	<input type="checkbox"/>	<input checked="" type="checkbox"/> Fenced Pasture
		<input type="checkbox"/>	<input type="checkbox"/> Conservation Tillage
		<input type="checkbox"/>	<input type="checkbox"/> Urban or Industrial
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Open Pasture, Row Crop
		<input type="checkbox"/>	<input type="checkbox"/> Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 %/100 ft) Flat to Moderate Moderate (2 %/100 ft) Moderate to Severe Severe (10 %/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimishillen Creek Distance from Evaluated Stream 2/1 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Canton East NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: 1
County: Stark County Township/City: TOLON-Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 12/19/2022 Quantity: 0.01"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): _____

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

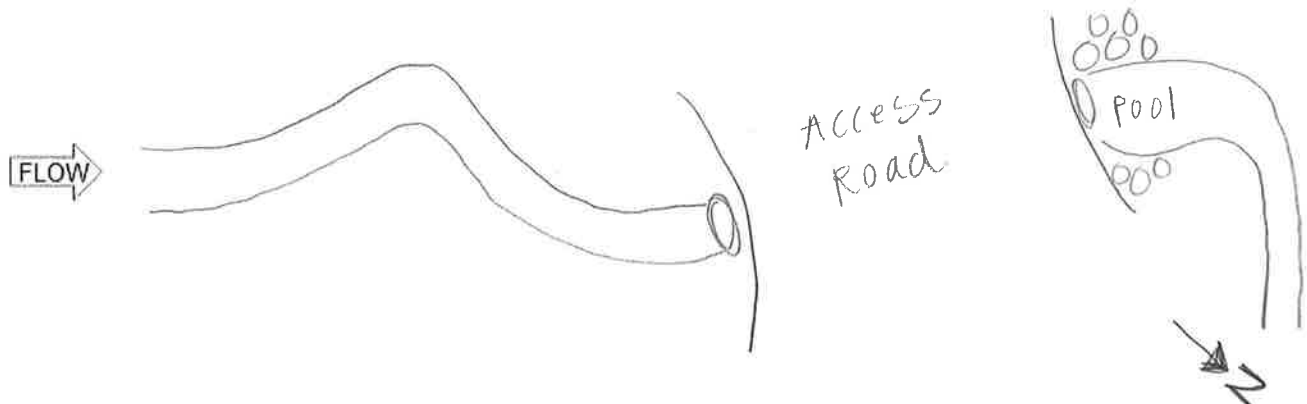
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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





Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3)

45

SITE NAME/LOCATION S. Canton - Sunnyside 138 kV Line Rebuild Project
 SITE NUMBER Stream 19 RIVER BASIN Muskingum RIVER CODE DRAINAGE AREA (mi²) ~0.05
 LENGTH OF STREAM REACH (ft) 33 LAT 40.748291 LONG -81.379281 RIVER MILE
 DATE 2/14/23 SCORER NML COMMENTS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

<p>1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B</p> <table border="0"> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> <tr> <td><input type="checkbox"/> Bldr Slabs [16 pts]</td> <td>_____</td> <td><input checked="" type="checkbox"/> SILT [3 pts]</td> <td><u>6.5</u></td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td><u>1.5</u></td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>_____</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>_____</td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>_____</td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td><u>2.0</u></td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>_____</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>_____</td> </tr> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____ (A) <u>12</u> (B) <u>3</u></p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: <u>12</u> TOTAL NUMBER OF SUBSTRATE TYPES: <u>3</u></p>		TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> Bldr Slabs [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pts]	<u>6.5</u>	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>1.5</u>	<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>2.0</u>	<input type="checkbox"/> MUCK [0 pts]	_____	<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____	<p>HHEI Metric Points</p> <p>Substrate Max = 40</p> <p><u>15</u></p> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																											
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<p>2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</p> <table border="0"> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input checked="" type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <u>6</u></p>		<input type="checkbox"/> > 30 centimeters [20 pts]	<input checked="" type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p>Pool Depth Max = 30</p> <p><u>15</u></p>																						
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<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):</p> <table border="0"> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) <u>4.4</u></p>		<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max=30</p> <p><u>15</u></p>																						
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This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS intermittent

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 %/100 ft) Flat to Moderate Moderate (2 %/100 ft) Moderate to Severe Severe (10 %/100 ft)

ADDITIONAL STREAM INFORMATION (This information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Nimishillen Creek Distance from Evaluated Stream ~1 mi
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Canton East NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Stark county Township/City: TOLON-Canton

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 2/9/23 Quantity: 0.14 in
Photo-documentation Notes: _____
Elevated Turbidity? (Y/N): N Canopy (% open): 15
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures: Temp (°C) 46.4 Dissolved Oxygen (mg/l) pH (S.U.) 8.3 Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____
Additional comments/description of pollution impacts: _____

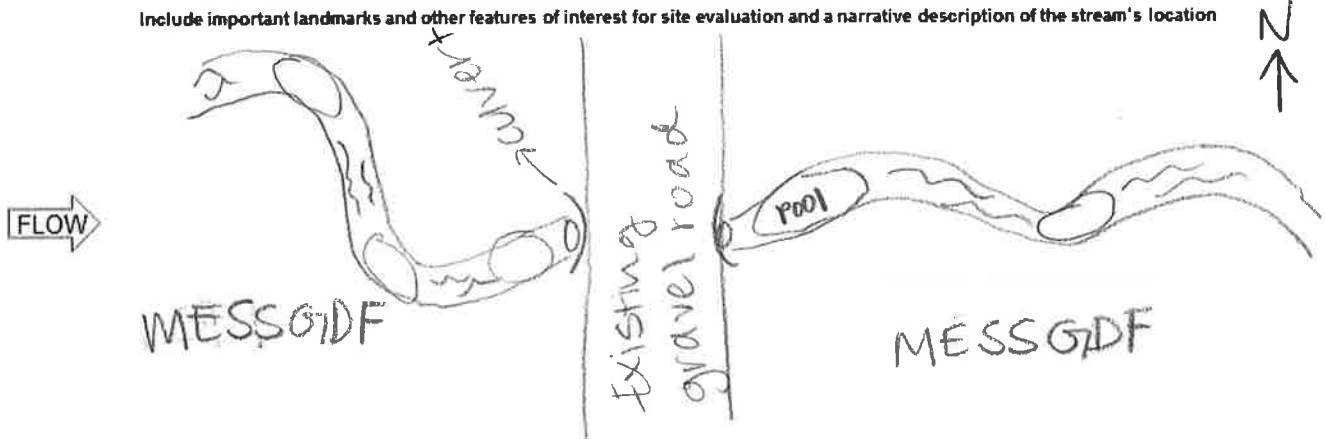
BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____
Salamanders Observed? (Y/N) N Species observed (if known): _____
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

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





Photograph Location 1. Representative view of old field habitat within the Project area. Photograph taken facing north.



Photograph Location 2. Representative view of existing ATV trail through early successional deciduous forest habitat within the Project area. Photograph taken facing northwest.



Photograph Location 3. Representative view of mixed early successional/second growth deciduous forest habitat, old field habitat, and existing gravel road within the Project area. Photograph taken facing east.



Photograph Location 4. Representative view of pasture habitat found within the Project area. Photograph taken facing west.



Photograph Location 5. Representative view of new field habitat and existing paved road within the Project area. Photograph taken facing west.



Photograph Location 6. Representative view of existing gravel road and residential lawn within the Project area. Photograph taken facing south.



Photograph Location 7. Representative view of residential lawn within the Project area.
Photograph taken facing east.



Photograph Location 8. Representative view of early successional deciduous forest habitat
within the Project area. Photograph taken facing east.



Photograph Location 9. Representative view existing paved road within the Project area.
Photograph taken facing north.



Photograph Location 10. Representative view of existing gravel road within the Project area.
Photograph taken facing north.



Photograph Location 11. Representative view of existing gravel road and industrial land (Faircrest Street Station) within the Project area. Photograph taken facing northeast.



Photograph Location 12. Representative view of new field habitat and existing paved road within the Project area. Photograph taken facing north.



Photograph Location 13. Representative view of agricultural field within the Project area.
Photograph taken facing northwest.



Photograph Location 14. Representative view of existing gravel road through agricultural field
within the Project area. Photograph taken facing east.



Photograph Location 15. Representative view of pasture habitat within the Project area.
Photograph taken facing east.



Photograph Location 16. Representative view of early successional deciduous forest habitat
within the Project area. Photograph taken facing east.



Photograph Location 16. Representative view of mixed early successional/second growth deciduous forest habitat and existing gravel road within the Project area. Photograph taken facing north.



Photograph Location 17. Representative view of residential lawn within the Project area. Photograph taken facing north.