



# OHIO DEPARTMENT OF TRANSPORTATION

## Level 1 Ecological Survey Report

(Version: 10-19)

for

**LOR IR 0090 10.76 PID 107714**

**ESR: LOR-90-10.76**

**Accepted: 12/21/2023 4:13:04 PM**

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I certify that I have personally examined and am familiar with the information in this report and all attachments, and that the data collection was supervised by an individual(s) prequalified to conduct ecological surveys for ODOT or by trained ODOT Environmental staff. Based on my inquiry of those persons immediately responsible for obtaining the information contained in the report, I believe that the information has been collected in accordance with the ODOT Ecological Manual current at the time of the report preparation, and is true, accurate, and complete.

**Responsible party name: Erin Van Nort**

**Responsible party title: Senior Wetland Scientist**

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# 1 General Project Information

## 1.1 Project Information

<p><b>Project Location Details:</b></p> <p>County(ies): LORAIN          Township(s): Elyria          Latitude (DD.ddddd): 41.41974          Longitude (-DD.ddddd): -82.08468          Study area size (ac.): 421.42</p>
<p><b>Survey Conditions:</b></p> <p>Field investigator name(s): Erin Van Nort, Jenna Slabe, Emma Given, Michael Whitacre          Date(s) of survey work: 07/31/2023, 08/01/2023, 08/02/2023, 08/04/2023, 08/08/2023, 08/09/2023, 08/11/2023, 08/14/2023, 08/15/2023, 08/03/2023, 08/07/2023, 08/10/2023</p>
<p><b>Survey Area Designations:</b></p> <p>USGS quadrangle(s): Lorain, Avon          Impacting or adjacent to ODNR property: No          Within the Coastal Zone Management area: No</p> <p><b>Project description:</b>          LOR-90-10.76 (PID 107714) is a major rehabilitation of I-90 including complete pavement replacement and adding one lane in each direction (inside median) from the merge/diverge with State Route 2 (SR 2) to the State Route 611 (SR 611) interchange. The project will include placement of noise walls along existing roadway within ODOT right-of-way. During the project, 33 culverts will be repaired (no replacement), all within existing ODOT right-of-way as well. This project is located in Elyria Township, the City of Elyria, Sheffield Village, and the City of Avon, Lorain County, Ohio. The project limits on I-90 will be from the Ohio Turnpike Toll Booth to the existing 6-lane section at the SR 611 interchange, a distance of roughly eight (8) miles. The section of I-90 between the Ohio Turnpike Toll Booth to SR 2 will be repaved but will remain a 4-lane roadway. The project will also involve some bridge work (resurfacing) and full replacement of the existing right-of-way fence. This project is a design build and as such no alternatives have been developed and all water resources have been assumed impacted with the exception of the Black River and French Creek. The Black River is a Group 2 mussel stream and French Creek has a watershed greater than 5 square miles. No mussel surveys and no mussel reconnaissance have been performed as no work is proposed within the Black River and French Creek and is why "No Streams with 5 mile drainage area or greater" was chosen for Line 187 below.</p>

### List of Project Alternatives:

Alternative name	Area of construction limits (ac.)	Preferred alternative
Design Build 1	421.42	Yes

## 2 Aquatic Ecology

### 2.1 Streams:

Streams present: Yes

Total length of streams within the project study area (ft.): 17438

#### Streams:

Stream name	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Drainage area (sq. mi.)	OEPA River Mile (if applicable)	12-Digit HUC	Captured within the roadway ditch	Stream hydrology type	USACE flow characteristics	Habitat assessment	Habitat score	pH value	Salamanders observed	Fish observed	Aquatic macro-invertebrates observed	OEPA aquatic life use designation	Provisional or official designation	Antidegradation designation	401 WQC for nationwide permit eligibility	National or state scenic rivers or NRI streams	Potential in-water work restriction based on proximity to scenic river	Designation for potential in-water work restriction	Length within open channel (ft.) in the study area	Length within existing culvert (ft.) in the study area	Total length in study area (ft.)	Alternative Name	Permanent estimated impact length (ft.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact length (ft.) by alternative construction limits (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact length (ft.) for the preferred alternative construction limits
01 Martin Run	41.40185	-82.15062	11,12,13	0.63		041100010703	No	Perennial	RPW-Perennial	HHEI	69	7.8	Not Surveyed	Not Surveyed	Not Surveyed	WWH	Official from OAC	General High Quality Water	Eligible	No		None Applicable	97	278	375	Design Build 1	97	0	97

**Flow path to TNW:**  
Stream 1 Martin Run -> Lake Erie  
**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

02	41.40286	-82.14566	33,34,35	0.01		041100010703	No	Perennial	RPW-Perennial	HHEI	63	9	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Eligible	No		None Applicable	60	600	660	Design Build 1	60	0	60
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**Flow path to TNW:**  
Stream 2 -> Stream 1 Martin Run -> Lake Erie  
**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

03	41.40283	-82.14057	40,41,42	0.05	N/A	041100010602	No	Perennial	RPW-Perennial	HHEI	37	8.3	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Potentially Eligible	No		None Applicable	142	309	451	Design Build 1	142	0	142
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**Flow path to TNW:**  
Stream 3 -> Unnamed Tributary -> Unnamed Direct Tributary -> Black River  
**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

04	41.40331	-82.13316	58, 59, 60	0.09		041100010602	No	Perennial	RPW-Perennial	HHEI	62	8.2	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	66	255	321	Design Build 1	66	0	66
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**Flow path to TNW:**  
Stream 4 -> Stream 25 -> Stream 2 -> Black River  
**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

05	41.40272	-82.11591	90, 91, 92	0.01		041100010602	No	Intermittent	Non-RPW	HHEI	69	7.9	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	28	0	28	Design Build 1	28	0	28
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**Flow path to TNW:**  
Stream 5 -> Stream 6 -> Unnamed Direct Tributary -> Black River  
**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

Stream name	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Drainage area (sq. mi.)	OEPA River Mile (if applicable)	12-Digit HUC	Captured within the roadway ditch	Stream hydrology type	USACE flow characteristics	Habitat assessment	Habitat score	pH value	Salamanders observed	Fish observed	Aquatic macro-invertebrates observed	OEPA aquatic life use designation	Provisional or official designation	Antidegradation designation	401 WQC for nationwide permit eligibility	National or state scenic rivers or NRI streams	Potential in-water work restriction based on proximity to scenic river	Designation for potential in-water work restriction	Length within open channel (ft.) in the study area	Length within existing culvert (ft.) in the study area	Total length in study area (ft.)	Alternative Name	Permanent estimated impact length (ft.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact length (ft.) by alternative construction limits (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact length (ft.) for the preferred alternative construction limits
06	41.40352	-82.11432	93, 94, 95	1.74	.3	041100010602	No	Perennial	RPW-Perennial	QHEI	59.5	8.2	Not Surveyed	Not Surveyed	Not Surveyed	MWH	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	361	754	1115	Design Build 1	361	0	361

**Flow path to TNW:**  
Stream 6 -> Stream 7-> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

07	41.40444	-82.11135	121, 122, 123	0.17	0.7	041100010602	No	Perennial	RPW-Perennial	HHEI	65	8.4	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	65	342	407	Design Build 1	65	0	65
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**Flow path to TNW:**  
Stream 7 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

08	41.40706	-82.10246	133, 134, 135	0.49	0.3	041100010602	No	Perennial	RPW-Perennial	HHEI	65	8.2	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	290	305	595	Design Build 1	290	0	290
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**Flow path to TNW:**  
Stream 8 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

09	41.40773	-82.10311	126, 127, 128	0.04		041100010602	No	Intermittent	Non-RPW	HHEI	36	8.0	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	195	0	195	Design Build 1	195	0	195
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**Flow path to TNW:**  
Stream 9 -> Stream 8 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

10 Black River	41.41119	-82.10053	149, 150, 151	414	9.5	041100010602	No	Perennial	TNW	QHEI	68.7	8.2	Not Surveyed	Not Surveyed	Not Surveyed	WWH	Official from OAC	General High Quality Water	Ineligible	No		WWH Greater than 20 sq. mi. Drainage Area	190	0	190	Design Build 1	0	0	0
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**Flow path to TNW:**  
Stream 10 Black River is a TNW

**Details on stream impact or other information (if known):**

11	41.41280	-82.09953	156, 157, 158	0.01		041100010602	No	Perennial	RPW-Perennial	HHEI	59	7.8	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	307	233	540	Design Build 1	307	0	307
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**Flow path to TNW:**  
Stream 11 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

Stream name	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Drainage area (sq. mi.)	OEPA River Mile (if applicable)	12-Digit HUC	Captured within the roadway ditch	Stream hydrology type	USACE flow characteristics	Habitat assessment	Habitat score	pH value	Salamanders observed	Fish observed	Aquatic macro-invertebrates observed	OEPA aquatic life use designation	Provisional or official designation	Antidegradation designation	401 WQC for nationwide permit eligibility	National or state scenic rivers or NRI streams	Potential in-water work restriction based on proximity to scenic river	Designation for potential in-water work restriction	Length within open channel (ft.) in the study area	Length within existing culvert (ft.) in the study area	Total length in study area (ft.)	Alternative Name	Permanent estimated impact length (ft.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact length (ft.) by alternative construction limits (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact length (ft.) for the preferred alternative construction limits
12	41.41185	-82.09845	166, 167, 168	0.01		041100010602	No	Perennial	RPW-Perennial	HHEI	22	8.1	Not Surveyed	Not Surveyed	Not Surveyed	Ephemeral Stream (Class I)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	2212	319	2531	Design Build 1	2212	0	2212

**Flow path to TNW:**  
Stream 12 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

13	41.40816	-82.10076	140, 141, 142	0.09		041100010602	No	Ephemeral	Non-RPW	HHEI	56	8.1	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	141	80	221	Design Build 1	141	0	141
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**Flow path to TNW:**  
Stream 13 -> Stream 31 -> Stream 8 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

14	41.40874	-82.10056	146, 147, 1487	0.01		041100010602	No	Ephemeral	Non-RPW	HHEI	31	N/A	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	56	0	56	Design Build 1	56	0	56
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**Flow path to TNW:**  
Stream 14 -> Stream 13 -> Stream 31 -> Stream 8 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

15	41.41281	-82.09805	163, 164, 165	0.01		041100010602	No	Ephemeral	Non-RPW	HHEI	58	8.0	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	173	0	173	Design Build 1	173	0	173
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**Flow path to TNW:**  
Stream 15 -> Stream 12 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

16	41.41884	-82.09430	173, 174, 175	0.01		041100010602	No	Ephemeral	Non-RPW	HHEI	17	8.1	Not Surveyed	Not Surveyed	Not Surveyed	Ephemeral Stream (Class I)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	40	0	40	Design Build 1	40	0	40
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**Flow path to TNW:**  
Stream 16 -> Stream 12 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

17	41.41807	-82.08521	178, 179, 180	0.06		041100010602	No	Perennial	RPW-Perennial	HHEI	60	8.1	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	40	493	533	Design Build 1	40	0	40
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**Flow path to TNW:**  
Stream 17 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

Stream name	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Drainage area (sq. mi.)	OEPA River Mile (if applicable)	12-Digit HUC	Captured within the roadway ditch	Stream hydrology type	USACE flow characteristics	Habitat assessment	Habitat score	pH value	Salamanders observed	Fish observed	Aquatic macro-invertebrates observed	OEPA aquatic life use designation	Provisional or official designation	Antidegradation designation	401 WQC for nationwide permit eligibility	National or state scenic rivers or NRI streams	Potential in-water work restriction based on proximity to scenic river	Designation for potential in-water work restriction	Length within open channel (ft.) in the study area	Length within existing culvert (ft.) in the study area	Total length in study area (ft.)	Alternative Name	Permanent estimated impact length (ft.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact length (ft.) by alternative construction limits (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact length (ft.) for the preferred alternative construction limits
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18 Walker Ditch	41.44729	-82.07189	220, 221, 222	0.75		041100010601	No	Perennial	RPW-Perennial	HHEI	68	7.7	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Potentially Eligible	No		None Applicable	150	272	422	Design Build 1	150	0	150
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**Flow path to TNW:**  
Stream 18 Walker Ditch -> French Creek -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

19 French Creek	41.46094	-82.05695	240, 241, 242	26.2	4.5	041100010601	No	Perennial	RPW-Perennial	QHEI	64	8.5	Not Surveyed	Not Surveyed	Not Surveyed	WWH	Official from OAC	General High Quality Water	Potentially Eligible	No		WWH Greater than 20 sq. mi. Drainage Area	385	0	385	Design Build 1	0	0	0
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**Flow path to TNW:**  
Stream 19 French Creek -> Black River

**Details on stream impact or other information (if known):**

20	41.46102	-82.05687	243, 244, 245	0.01		041100010601	No	Perennial	RPW-Perennial	HHEI	42	8.0	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Potentially Eligible	No		None Applicable	65	0	65	Design Build 1	65	0	65
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**Flow path to TNW:**  
Stream 20 -> French Creek -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

21	41.45267	-82.06748	228, 229, 230	0.01		041100010601	No	Perennial	RPW-Perennial	HHEI	54	7.8	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Potentially Eligible	No		None Applicable	79	289	368	Design Build 1	79	0	79
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**Flow path to TNW:**  
Stream 21 -> Walker Ditch -> French Creek -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

22 Kline Ditch	41.45624	-82.06324	232, 233, 234	2.79	0.7	041100010601	No	Perennial	RPW-Perennial	QHEI	51	8.2	Not Surveyed	Not Surveyed	Not Surveyed	MWH	Provisional Based on Project Field Assessment	General High Quality Water	Potentially Eligible	No		None Applicable	70	238	308	Design Build 1	70	0	70
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**Flow path to TNW:**  
Stream 22 Kline Ditch -> French Creek -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

23 Jungbluth Ditch	41.43742	-82.07952	200, 201, 202	3.36	2.5	041100010601	No	Perennial	RPW-Perennial	QHEI	54.5	8.2	Not Surveyed	Not Surveyed	Not Surveyed	MWH	Provisional Based on Project Field Assessment	General High Quality Water	Potentially Eligible	No		None Applicable	135	251	386	Design Build 1	135	0	135
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**Flow path to TNW:**  
Stream 23 Jungbluth Ditch -> French Creek -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

Stream name	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Drainage area (sq. mi.)	OEPA River Mile (if applicable)	12-Digit HUC	Captured within the roadway ditch	Stream hydrology type	USACE flow characteristics	Habitat assessment	Habitat score	pH value	Salamanders observed	Fish observed	Aquatic macro-invertebrates observed	OEPA aquatic life use designation	Provisional or official designation	Antidegradation designation	401 WQC for nationwide permit eligibility	National or state scenic rivers or NRI streams	Potential in-water work restriction based on proximity to scenic river	Designation for potential in-water work restriction	Length within open channel (ft.) in the study area	Length within existing culvert (ft.) in the study area	Total length in study area (ft.)	Alternative Name	Permanent estimated impact length (ft.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact length (ft.) by alternative construction limits (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact length (ft.) for the preferred alternative construction limits
24	41.43722	-82.08064	197, 198, 199	0.01		041100010601	No	Perennial	RPW-Perennial	HHEI	47	8.2	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Potentially Eligible	No		None Applicable	796	0	796	Design Build 1	796	0	796

**Flow path to TNW:**  
Stream 24 -> Jungbluth Ditch -> French Creek -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

25	41.40636	-82.11866	82, 83, 84	0.33		041100010602	No	Perennial	RPW-Perennial	HHEI	51	7.8	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	4103	719	4822	Design Build 1	4103	0	4103
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**Flow path to TNW:**  
Stream 25 -> Unnamed Direct Tributary -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

26	41.40640	-82.11897	76, 77, 78	0.01		041100010602	No	Ephemeral	Non-RPW	HHEI	12	N/A	Not Surveyed	Not Surveyed	Not Surveyed	Ephemeral Stream (Class I)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	153	0	153	Design Build 1	153	0	153
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**Flow path to TNW:**  
Stream 26 -> Stream 25 -> Unnamed Direct Tributary -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

27	41.40590	-82.11995	79, 80, 81	0.01		041100010602	No	Ephemeral	Non-RPW	HHEI	18	7.8	Not Surveyed	Not Surveyed	Not Surveyed	Ephemeral Stream (Class I)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	33	0	33	Design Build 1	33	0	33
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**Flow path to TNW:**  
Stream 27 -> Stream 25 -> Unnamed Direct Tributary -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

28	41.40539	-82.12056	69, 70, 71	0.06		041100010602	No	Ephemeral	Non-RPW	HHEI	28	7.8	Not Surveyed	Not Surveyed	Not Surveyed	Ephemeral Stream (Class I)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	59	0	59	Design Build 1	59	0	59
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**Flow path to TNW:**  
Stream 28 -> Stream 25 -> Unnamed Direct Tributary -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

29	41.40449	-82.12734	62, 63, 64	0.01	0.7	041100010602	No	Intermittent	Non-RPW	HHEI	31	7.6	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	40	0	40	Design Build 1	40	0	40
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**Flow path to TNW:**  
Stream 29 -> Stream 25 -> Unnamed Direct Tributary -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.



Stream name	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Drainage area (sq. mi.)	OEPA River Mile (if applicable)	12-Digit HUC	Captured within the roadway ditch	Stream hydrology type	USACE flow characteristics	Habitat assessment	Habitat score	pH value	Salamanders observed	Fish observed	Aquatic macro-invertebrates observed	OEPA aquatic life use designation	Provisional or official designation	Antidegradation designation	401 WQC for nationwide permit eligibility	National or state scenic rivers or NRI streams	Potential in-water work restriction based on proximity to scenic river	Designation for potential in-water work restriction	Length within open channel (ft.) in the study area	Length within existing culvert (ft.) in the study area	Total length in study area (ft.)	Alternative Name	Permanent estimated impact length (ft.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact length (ft.) by alternative construction limits (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact length (ft.) for the preferred alternative construction limits
30	41.40410	-82.13309	55, 56, 57	0.04		041100010602	No	Perennial	RPW-Perennial	HHEI	56	8.2	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Potentially Eligible	No		None Applicable	666	0	666	Design Build 1	666	0	666

**Flow path to TNW:**  
Stream 30 -> Stream 4 -> Stream 25 -> Unnamed Direct Tributary -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

31	41.40892	-82.10179	143, 144, 145	0.01		041100010602	No	Intermittent	Non-RPW	HHEI	55	7.6	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	88	0	88	Design Build 1	88	0	88
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**Flow path to TNW:**  
Stream 31 -> Stream 8 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

32	41.40545	-82.11322	104, 105, 106	0.01		041100010602	No	Intermittent	Non-RPW	HHEI	46	7.9	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	187	0	187	Design Build 1	187	0	187
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**Flow path to TNW:**  
Stream 32 -> Stream 6 -> Stream 7 -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

33	41.40698	-82.11658	110, 111, 112	0.01		041100010602	No	Intermittent	Non-RPW	HHEI	24	8.1	Not Surveyed	Not Surveyed	Not Surveyed	Ephemeral Stream (Class I)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	122	0	122	Design Build 1	122	0	122
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**Flow path to TNW:**  
Stream33 -> Stream 25 -> Unnamed Direct Tributary -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

34	41.40682	-82.11666	107, 108, 109	0.01		041100010602	No	Intermittent	Non-RPW	HHEI	59	7.9	Not Surveyed	Not Surveyed	Not Surveyed	Small Drainage Warmwater (Class II)	Provisional Based on Project Field Assessment	General High Quality Water	Ineligible	No		None Applicable	107	0	107	Design Build 1	107	0	107
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**Flow path to TNW:**  
Stream 34 -> Stream 25 -> Unnamed Direct Tributary -> Black River

**Details on stream impact or other information (if known):**  
Impacts are assumed for the length of stream delineated within right of way since LOR-90-10.76 is a design build project.

PERENNIAL	Total estimated permanent impact length to all streams by alternative (ft.):	Total estimated temporary impact length to all streams by alternative (ft.):	Total estimated (temporary + permanent) impact length to all streams by alternative (ft.):
Design Build 1	9704	0	9704

INTERMITTENT	Total estimated permanent impact length to all streams by alternative (ft.):	Total estimated temporary impact length to all streams by alternative (ft.):	Total estimated (temporary + permanent) impact length to all streams by alternative (ft.):
Design Build 1	767	0	767

EPHEMERAL	Total estimated permanent impact length to all streams by alternative (ft.):	Total estimated temporary impact length to all streams by alternative (ft.):	Total estimated (temporary + permanent) impact length to all streams by alternative (ft.):
Design Build 1	655	0	655

## 2.2 Wetlands:

Wetlands present: Yes

Total acreage of wetlands within the project study area (ac): 12.464

Wetlands identified on figure(s):

### Wetlands:

Wetland ID	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Hydrologic connection	12-Digit HUC	ORAM score	Wetland category	Known high quality wetland	Primary wetland type (Cowardin)	Secondary wetland type (Cowardin)	Estimated hydroperiod (Cowardin)	Estimated total size (ac.)	Estimated size in study area (ac.)	Alternative Name	Permanent estimated impact area (ac.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact area (ac.) by alternative (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact area (ac.) for the preferred alternative construction limits
01	41.39561	-82.15856	2, 3, 4, 5	Adjacent	041100010703	23	Category 1	No	Palustrine - Emergent Wetland Persistent	Palustrine - Forested Wetland	Semipermanently Flooded	8.0	1.514	Design Build 1	1.514	0	1.514

#### Flow path to TNW:

The northern extent of wetland 1 drains to an existing 3x5 concrete inlet. No outlet within the project area was observed.

#### Details on wetland impact or other information (if known):

Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

02	41.40048	-82.15476	14, 15, 16, 17	Adjacent	041100010703	26	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Semipermanently Flooded	5.0	1.441	Design Build 1	1.441	0	1.441
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#### Flow path to TNW:

Wetland 2 -> Stream 1 Martin Run -> Lake Erie

#### Details on wetland impact or other information (if known):

Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

03	41.40265	-82.14790	18, 19, 20, 21	Adjacent	041100010703	23.5	Category 1	No	Palustrine - Emergent Wetland Persistent	Palustrine - Scrub/Shrub Wetland	Semipermanently Flooded	3.0	0.490	Design Build 1	0.490	0	0.490
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#### Flow path to TNW:

Wetland 3 -> Stream 2 -> Stream 1 Martin Run -> Lake Erie

#### Details on wetland impact or other information (if known):

Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

04	41.40269	-82.14741	36, 37, 38, 39	Adjacent	041100010602	29	Category 1	No	Palustrine - Forested Wetland	Palustrine - Emergent Wetland Persistent	Semipermanently Flooded	2.0	0.812	Design Build 1	0.812	0	0.812
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#### Flow path to TNW:

Wetland 24 -> Stream 3 -> Unnamed Tributary -> Unnamed Direct Tributary -> Black River

#### Details on wetland impact or other information (if known):

Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

05	41.40306	-82.13773	51, 52, 53, 54	Adjacent	041100010602	22	Category 1	No	Palustrine - Forested Wetland	Palustrine - Emergent Wetland Persistent	Semipermanently Flooded	0.50	0.293	Design Build 1	0.293	0	0.293
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#### Flow path to TNW:

Wetland 5 appears to be isolated. The only observed source of hydrology is precipitation.

#### Details on wetland impact or other information (if known):

Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

06	41.40374	-82.12741	65, 66, 67, 68	Isolated	041100010602	22	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Semipermanently Flooded	0.30	0.201	Design Build 1	0.201	0	0.201
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#### Flow path to TNW:

Wetland 6 appears to be isolated.

#### Details on wetland impact or other information (if known):

Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

07	41.40368	-82.11411	96, 97, 98, 99	Adjacent	041100010602	22	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Semipermanently Flooded	0.20	0.152	Design Build 1	0.152	0	0.152
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Wetland ID	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Hydrologic connection	12-Digit HUC	ORAM score	Wetland category	Known high quality wetland	Primary wetland type (Cowardin)	Secondary wetland type (Cowardin)	Estimated hydroperiod (Cowardin)	Estimated total size (ac.)	Estimated size in study area (ac.)	Alternative Name	Permanent estimated impact area (ac.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact area (ac.) by alternative (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact area (ac.) for the preferred alternative construction limits
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**Flow path to TNW:**  
Wetland 7 -> Stream 6 -> Stream 7 -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

08	41.40435	-82.11270	117, 118, 119, 120	Adjacent	041100010602	20.5	Category 1	No	Palustrine - Scrub/Shrub Wetland	Palustrine - Emergent Wetland Persistent	Semipermanently Flooded	0.08	0.075	Design Build 1	0.075	0	0.075
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**Flow path to TNW:**  
Wetland 8 -> overland flow, outside of study area, presumed based upon topography -> Stream 7 -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

09	41.40784	-82.10298	129, 130, 131, 132	Adjacent	041100010602	13	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Saturated	0.009	0.009	Design Build 1	0.009	0	0.009
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**Flow path to TNW:**  
Wetland 9 -> Stream 9 -> Stream 8 -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

10	41.40691	-82.10248	136, 137, 138, 139	Adjacent	041100010602	24	Category 1	No	Palustrine - Emergent Wetland Persistent	Palustrine - Emergent Wetland Persistent	Semipermanently Flooded	0.004	0.004	Design Build 1	0.004	0	0.004
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**Flow path to TNW:**  
Wetland 10 -> Stream 8 -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

11	41.41272	-82.09945	152, 153, 154, 155	Adjacent	041100010602	18	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Saturated	0.04	0.035	Design Build 1	0.035	0	0.035
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**Flow path to TNW:**  
Wetland 11 -> Stream 11 -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

12	41.41210	-82.09854	159, 160, 161, 162	Adjacent	041100010602	20	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Seasonally Flooded	0.10	0.094	Design Build 1	0.094	0	0.094
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**Flow path to TNW:**  
Wetland 12 -> Stream 12 -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

13	41.41500	-82.09400	169, 170, 171, 172	Adjacent	041100010602	34	Category 2	No	Palustrine - Scrub/Shrub Wetland	Palustrine - Emergent Wetland Nonpersistent	Semipermanently Flooded	0.203	0.203	Design Build 1	0.203	0	0.203
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**Flow path to TNW:**  
Wetland 13 -> Stream 12 -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

14	41.41885	-82.08518	181, 182, 183, 184	Adjacent	041100010602	34	Category 2	No	Palustrine - Forested Wetland	Palustrine - Emergent Wetland Persistent	Seasonally Flooded	0.20	0.148	Design Build 1	0.148	0	0.148
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Wetland ID	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Hydrologic connection	12-Digit HUC	ORAM score	Wetland category	Known high quality wetland	Primary wetland type (Cowardin)	Secondary wetland type (Cowardin)	Estimated hydroperiod (Cowardin)	Estimated total size (ac.)	Estimated size in study area (ac.)	Alternative Name	Permanent estimated impact area (ac.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact area (ac.) by alternative (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact area (ac.) for the preferred alternative construction limits
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**Flow path to TNW:**  
Wetland 14 -> Stream 17 -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

15	41.46352	-82.05194	248, 249, 250, 251	Adjacent	041100010601	8	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Temporarily Flooded	0.50	0.118	Design Build 1	0.118	0	0.118
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**Flow path to TNW:**  
Wetland 15 -> non-jurisdictional conveyance -> French Creek  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

16	41.44828	-82.07227	216, 217, 218, 219	Adjacent	041100010601	18	Category 1	No	Palustrine - Scrub/Shrub Wetland	Palustrine - Emergent Wetland Persistent	Sempermanently Flooded	2.0	1.478	Design Build 1	1.478	0	1.478
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**Flow path to TNW:**  
Wetland 16-> Stream 18 Walker Ditch -> French Creek -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

17	41.44275	-82.07635	211, 212, 213, 214	Adjacent	041100010601	22	Category 1	No	Palustrine - Emergent Wetland Persistent	Palustrine - Emergent Wetland Persistent	Sempermanently Flooded	0.20	0.190	Design Build 1	0.190	0	0.190
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**Flow path to TNW:**  
Wetland 17 -> non-jurisdictional conveyance -> wetland 18 -> non-jurisdictional conveyance -> Jungbluth ditch  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

18	41.43925	-82.07906	207, 208, 209, 210	Adjacent	041100010601	27	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Sempermanently Flooded	1.5	0.396	Design Build 1	0.396	0	0.396
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**Flow path to TNW:**  
Wetland 18 -> non-jurisdictional conveyance -> Jungbluth ditch  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

19	41.43772	-82.08016	203, 204, 205, 206	Adjacent	041100010601	24	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Seasonally Flooded	0.05	0.039	Design Build 1	0.039	0	0.039
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**Flow path to TNW:**  
Wetland 19 -> Stream 23 Jungbluth Ditch -> French Creek -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

20	41.43601	-82.08147	193, 194, 195, 196	Adjacent	041100010601	34	Category 2	No	Palustrine - Forested Wetland	Not applicable	Seasonally Flooded	6.0	0.641	Design Build 1	0.641	0	0.641
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**Flow path to TNW:**  
Wetland 20 -> Stream 24 -> Stream 23 Jungbluth Ditch -> French Creek -> Black River  
**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

21	41.46474	-82.05259	252, 253, 254, 255	Adjacent	041100010601	12	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Saturated	0.60	0.579	Design Build 1	0.579	0	0.579
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Wetland ID	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Hydrologic connection	12-Digit HUC	ORAM score	Wetland category	Known high quality wetland	Primary wetland type (Cowardin)	Secondary wetland type (Cowardin)	Estimated hydroperiod (Cowardin)	Estimated total size (ac.)	Estimated size in study area (ac.)	Alternative Name	Permanent estimated impact area (ac.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact area (ac.) by alternative (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact area (ac.) for the preferred alternative construction limits
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**Flow path to TNW:**  
Wetland 21 -> non-jurisdictional conveyance -> Avins ditch -> French Creek -> Black River

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

22	41.40377	-82.13878	47, 48, 49, 50	Adjacent	041100010602	29	Category 1	No	Palustrine - Forested Wetland	Palustrine - Emergent Wetland Persistent	Semipermanently Flooded	8.0	0.594	Design Build 1	0.594	0	0.594
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**Flow path to TNW:**  
Wetland 22 -> Stream 30 -> Stream 4 -> Stream 25 -> Unnamed Direct Tributary -> Black River

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

23	41.40418	-82.14596	26, 27, 28, 29	Adjacent	041100010703	28	Category 1	No	Palustrine - Scrub/Shrub Wetland	Palustrine - Emergent Wetland Persistent	Semipermanently Flooded	0.50	0.029	Design Build 1	0.029	0	0.029
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**Flow path to TNW:**  
Wetland 23 -> Stream 2 is culverted under I-90 and outlets outside of study area; the open channel that flows behind 6697 Murray Ridge Rd is downstream segment of Stream 2 -> Martin Run -> Lake Erie

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

24	41.40364	-82.14758	22, 23, 24, 25	Adjacent	041100010703	28.5	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Semipermanently Flooded	0.15	0.109	Design Build 1	0.109	0	0.109
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**Flow path to TNW:**  
Wetland 24 -> Stream 2 is culverted under I-90 and outlets outside of study area; the open channel that flows behind 6697 Murray Ridge Rd is downstream segment of Stream 2 -> Martin Run -> Lake Erie

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

25	41.40242	-82.15138	6, 7, 8, 9	Adjacent	041100010703	26	Category 1	No	Palustrine - Scrub/Shrub Wetland	Palustrine - Emergent Wetland Persistent	Semipermanently Flooded	2.0	1.449	Design Build 1	1.449	0	1.449
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**Flow path to TNW:**  
Wetland 25 -> Stream 1 Martin Run -> Lake Erie

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

26	41.40351	-82.14054	43, 44, 45, 46	Adjacent	041100010602	19	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Semipermanently Flooded	0.022	0.022	Design Build 1	0.022	0	0.022
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**Flow path to TNW:**  
Wetland 26 -> Stream 3 -> Unnamed Tributary -> Unnamed Direct Tributary -> Black River

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

27	41.40654	-82.11827	85, 86, 87, 88	Adjacent	041100010602	29	Category 1	No	Palustrine - Forested Wetland	Palustrine - Emergent Wetland Persistent	Seasonally Flooded	0.027	0.027	Design Build 1	0.027	0	0.027
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**Flow path to TNW:**  
Wetland 27 -> Stream 25-> Unnamed Direct Tributary -> Black River

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

28	41.40575	-82.11985	72, 73, 74, 75	Adjacent	041100010602	28.5	Category 1	No	Palustrine - Forested Wetland	Palustrine - Emergent Wetland Persistent	Seasonally Flooded	0.018	0.018	Design Build 1	0.018	0	0.018
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Wetland ID	Latitude (DD.ddddd)	Longitude (-DD.ddddd)	Photo ID	Hydrologic connection	12-Digit HUC	ORAM score	Wetland category	Known high quality wetland	Primary wetland type (Cowardin)	Secondary wetland type (Cowardin)	Estimated hydroperiod (Cowardin)	Estimated total size (ac.)	Estimated size in study area (ac.)	Alternative Name	Permanent estimated impact area (ac.) by alternative construction limits (Include temporary impact within the permanent impact area) (if known)	Temporary estimated impact area (ac.) by alternative (Only include temporary impact outside the permanent impact area) (if known)	Total estimated impact area (ac.) for the preferred alternative construction limits
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**Flow path to TNW:**  
Wetland 28 -> Stream 25 -> Unnamed Direct Tributary -> Black River

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

29	41.40545	-82.11329	100, 101, 102, 103	Adjacent	041100010602	17	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Semipermanently Flooded	0.082	0.082	Design Build 1	0.082	0	0.082
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**Flow path to TNW:**  
Wetland 29 -> Stream 32 -> Stream 6 -> Unnamed Direct Tributary -> Black River

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

30	41.40539	-82.11262	113, 114, 115, 116	Adjacent	041100010602	19	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Saturated	0.20	0.157	Design Build 1	0.157	0	0.157
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**Flow path to TNW:**  
Wetland 13 -> Stream 6 -> Stream 7 Unnamed Direct Tributary -> Black River

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

31	41.45662	-82.06402	235, 236, 237, 238	Adjacent	041100010601	20	Category 1	No	Palustrine - Emergent Wetland Persistent	Not applicable	Semipermanently Flooded	1.0	0.422	Design Build 1	0.422	0	0.422
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**Flow path to TNW:**  
Wetland 31 -> Stream 22 Kline Ditch -> French Creek -> Black River

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

32	41.45328	-82.06814	223, 224, 225, 226	Adjacent	041100010601	25	Category 1	No	Palustrine - Forested Wetland	Palustrine - Emergent Wetland Persistent	Saturated	1.20	0.643	Design Build 1	0.643	0	0.643
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**Flow path to TNW:**  
Wetland 32 -> Stream 21 -> Walker Ditch -> French Creek -> Black River

**Details on wetland impact or other information (if known):**  
Impacts are assumed for the amount of wetland delineated within right of way since LOR-90-10.76 is a design build project.

	Total estimated permanent impact area to all wetlands by alternative (ac.):	Total estimated temporary impact area to all wetlands by alternative (ac.):	Total estimated (temporary + permanent) impact area to all wetlands by alternative (ac.):
Design Build 1	12.464	0	12.464

## 2.3 Ditches:

Potentially jurisdictional ditches or non-jurisdictional conveyances for adjacent wetlands present: No

**2.4 Ponds, Lakes, Reservoirs, Retention/Detention Basins:**

Other water bodies present: No



## **2.7 Mussels**

**The project includes a stream(s) greater than or equal to 5 square miles in drainage area: No - Stream(s) are Not Likely Suitable for Mussel Populations and No Mussels Were Observed During Other Survey Activities**

## 3 Terrestrial Ecology

### 3.1 Vegetative Communities and Land Cover

#### Vegetative Communities and Land Cover:

Vegetative communities and land cover found within the project study area	Degree of man induced ecological disturbance	Unique, rare, or high quality	Within project study area(s) (ac.)	Vegetation and land cover areas identified on figure(s)	Alternative Name	Alternative impacts (ac.)
Developed, High Intensity (DH) - Includes Highly Developed Areas Where People Reside or Work in High Numbers. Examples Include Apartment Complexes, Row Houses and Commercial/Industrial. Impervious Surfaces Account for 80 to 100% of the Total Cover.	Extreme Disturbance/Ruderal Community (Dominated by Opportunistic Invaders or Native Highly Tolerant Taxa)	No	137.38		Design Build 1	137.38
Developed Open Space - DS - (Mown Right-of-Way, Large-Lot Single-Family Housing Units, Parks, Golf Courses, and Vegetation Planted in Developed Settings for Recreation, Erosion control, or Aesthetic Purposes)	Extreme Disturbance/Ruderal Community (Dominated by Opportunistic Invaders or Native Highly Tolerant Taxa)	No	201.21		Design Build 1	201.21
Upland Forest - UF - (Uplands Dominated by Trees)	Intermediate Disturbance (Dominated by Plants that Typify a Stable Phase of a Native Community that Persists Under Some Disturbance)	No	49.11		Design Build 1	49.11
Scrub/Shrub - SS - (True Shrubs, and Young Trees in an Early Successional Stage)	Intermediate Disturbance (Dominated by Plants that Typify a Stable Phase of a Native Community that Persists Under Some Disturbance)	No	19.49		Design Build 1	19.49
Marsh - MA - (Wetland Dominated by Submergent, Floating, and/or Emergent Vegetation)	Extreme Disturbance/Ruderal Community (Dominated by Opportunistic Invaders or Native Highly Tolerant Taxa)	No	6.06		Design Build 1	6.06
Open Water - All Areas of Open Water, Generally with Less Than 25% Cover of Vegetation or Soil.	Extreme Disturbance/Ruderal Community (Dominated by Opportunistic Invaders or Native Highly Tolerant Taxa)	No	1.76		Design Build 1	1.76
Forested Swamp - FS - (Wetland Dominated by Trees)	Intermediate Disturbance (Dominated by Plants that Typify a Stable Phase of a Native Community that Persists Under Some Disturbance)	No	3.18		Design Build 1	3.18

Vegetative communities and land cover found within the project study area	Degree of man induced ecological disturbance	Unique, rare, or high quality	Within project study area(s) (ac.)	Vegetation and land cover areas identified on figure(s)	Alternative Name	Alternative impacts (ac.)
Shrub Swamp - SH - (Wetland Dominated by True Shrubs, and Young Trees in an Early Successional Stage)	Intermediate Disturbance (Dominated by Plants that Typify a Stable Phase of a Native Community that Persists Under Some Disturbance)	No	3.23		Design Build 1	3.23

Total Impacts	Design Build 1	421.42
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**Additional Information:**

As shown on Figure 5, for the LOR-90-10.76 project, the Developed, High Intensity (DH) community consists of existing paved road, including Interstate 90 as well as on-ramps and off-ramps. The Developed Open Space (DS) community consists of the mowed and maintained medians and shoulders along both westbound and eastbound lanes. None of the observed communities can be classified as unique, rare, or high quality.

**3.4 Birds**

**Colony nesting birds or any peregrine falcon sightings on bridges or culverts: No**

## 4 Listed Species

### 4.1 Federally Listed Species

ODOT is the lead Federal action agency for this project: Yes

#### 4.1.1 Federally Listed Bats

##### Federally Listed Bats:

Species common name	Species scientific name	Listing status
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered

**Suitable habitat:**  
The 2016 PBO defines suitable wooded habitat (SWH) for these species as any tree covered area that is 0.5 ac or larger, containing any potential roosts (i.e., live trees and/or snags 3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities) greater than 13 ft tall and at least 3 in dbh, or any patch of trees with these characteristics that is less than ½ acre in size but is within 1,000 feet of or connected by a travel corridor to a PMRT, ½-acre or larger stand of SWH, or any patch of wooded riparian buffer. Additionally, these species may use bridges over streams as summer roosting habitat. During the winter months these species inhabit hibernacula (typically caves, or abandoned mines that provide cool, humid, stable conditions for hibernation).

**Bat management unit:** Western Management Unit

**The project is in a known bat buffer:** No

**Record type(s) (color):**

**Date of records request:** 08/18/2023

##### 4.1.1.1 Bat Impacts Per Alternative

###### Design Build 1

**The alternative will impact suitable wooded habitat (SWH):** Yes

**Acreage of SWH impacts within 100 feet of the edge of pavement:** 45.14

**All SWH to be impacted is within 100 feet of the edge of pavement:** No

**Acreage of impacted SWH within 50 feet of a perennial stream but outside 100 feet of the roadway:** 3.65

**Acreage of impacted SWH between 100 and 300 feet from the edge of pavement and not located within 50 feet of a perennial stream:** 2.44

**Acreage of impacted SWH further than 300 feet from the edge of pavement:** 0

**PMRTs located further than 100 feet from the edge of pavement will be impacted:** No

**The alternative will impact a bridge spanning 20 feet and located over water:** No

**Consultation category:** CC3

**Effect determination:** May Affect, Likely to Adversely Affect

**Discussion including impacts to suitable habitat:**

During the field study SWH was identified within the Project Study Area. Figure 6 SWH shows the location of the 45.14-acres of SWH within 100-feet of the edge of pavement and an additional 6.09-acres of SWH outside of the 100-foot edge of pavement. This figure has been uploaded to the Project File/Ecological/ESR/Appendices.PDF. The August 23, 2023 Bat Buffer request response from FWS indicates the Project Study Area is not located within a Bat Buffer. This project is a design build and will require tree cutting. As such this project is anticipated to impact all of the SWH within the Project Study Area. A photographic log showing representative photos of potential roost trees and as well as existing conditions can be found in the Project File/Ecological/ESR/Appendices.PDF. Tree removal will only occur between October 1 and March 31 when the species would not be present.

51.23ac of SWH will be impacted for this project. This project exceeds the thresholds by removing 6.09 ac of SWH further than 100ft from the edge of pavement. Of this 3.65ac is also within 50ft of a perennial stream. This project is CC3b, May Affect, and is Likely to Adversely Affect the Indiana bat and Northern long-eared bat. Per the 2016 OHPBO (rev. 12/17), 10.66 acres of credit will be deducted from the SCCC2 pooled mitigation site.

45.14ac of SWH impacts within 100ft from EOP = 45.14ac \* NA = 0  
 6.09ac of SWH impact from 100-300ft from EOP= 6.09ac \* 1.75 = 10.66ac  
 Total deducted from SCCC2 pooled mitigation site = 10.66ac

However, this is a design build project and SWH is being cut for ROW fence repair. Not all of the SWH here will be impacted as this ESR was written as worst case scenario.

## 4.1.2 Bald Eagles

### Bald Eagle:

Species common name	Species scientific name	Listing status
Bald Eagle	Haliaeetus leucocephalus	Species of Concern
<b>Suitable habitat:</b> The Bald Eagle is protected under the Bald and Golden Eagle Protection Act which prohibits taking bald eagles, including disturbance. The preferred habitat includes mature forests adjacent to open water for nesting and foraging. Within Ohio bald eagles use the tops of large trees to build nests, which they typically use and enlarge each year.		

### 4.1.2.1 Bald Eagle Impacts Per Alternative

#### Design Build 1

**A nest (a known record or an observed nest) is located within 0.5 mile of the roadway alternative: No**

**Effect determination: No Effect**

**The project will take an eagle nest: No**

**The project will require a non-purposeful take permit: No**

#### Discussion including impacts to suitable habitat:

No suitable habitat for Bald Eagles (i.e., mature forested areas) was observed within the LOR-90 Project Study area. The August 23, 2023 records review response from the FWS indicated that the Project Study Area is not within a know Bald Eagle nest buffer. During the course of the typical field investigation there was no sightings of Bald Eagles and no nests were observed. As a result, this Project is not anticipated to have an impact on the Bald Eagle.

## 4.1.3 Other Federally Listed Species

### Other Federally Listed Species:

Species common name	Species scientific name	Listing status
Piping Plover	Charadrius melodus	Endangered
<p><b>Suitable habitat:</b>            The Piping Plover lives the majority of its life on open sandy beaches or rocky shores containing very little grass or other vegetation, often in high, dry sections away from the water. Nesting territories often include small creeks or wetlands. In Ohio, this species nests in sand and/or gravel beaches along Lake Erie. Designated critical habitat for piping plovers consists of Sheldon Marsh State Natural Area in Erie County and Headland Dunes Nature Preserve in Lake County.</p>		
Design Build 1	<p><b>Discussion including impacts to suitable habitat:</b>            The northeastern project terminus is located approximately 2.7-miles (straight-line distance) from the shores of Lake Erie. Critical habitat for this species has not been identified in Lorain County (LOR-90-10.76 project location) and no suitable habitat was observed within the Project Study Area for the Piping Plover. As a result, this project is not anticipated to impact this species or its habitat.</p>	
	<p><b>Effect Determination:</b> No Effect</p>	

Species common name	Species scientific name	Listing status
Round Hickorynut	Obovaria subrotunda	Threatened
<p><b>Suitable habitat:</b>            The Round Hickorynut mussel can be found in small streams to big rivers and in Lake Erie. This species prefers areas with slow to moderate current and can be found in sand and gravel substrates. It is generally found in areas with less than 6 feet of water. In Ohio, this species is only known from certain high-quality waterways with drainages larger than 5 square miles.</p>		
Design Build 1	<p><b>Discussion including impacts to suitable habitat:</b>            Within the LOR-90-10.76 Project Study Area, two resources, Stream 10 Black River and Stream 19 French Creek have the potential to offer habitat (i.e., over 5-square mile watershed) to the Round Hickorynut mussel. No work will be performed within the Black River and French Creek. The remaining streams within the Project Study Area do not offer suitable habitat for this mussel species. Therefore, this Project is not anticipated to have an impact on the Round Hickorynut mussel.</p>	
	<p><b>Effect Determination:</b> No Effect</p>	

Species common name	Species scientific name	Listing status
Rufa Red Knot	Calidris canutus rufa	Threatened
<p><b>Suitable habitat:</b>            The Rufa Red Knot is not known to nest in Ohio. Migratory stop-over habitat in Ohio consists of sand, gravel, and/or cobble beaches and/or mudflats along the shores of Lake Erie.</p>		
Design Build 1	<p><b>Discussion including impacts to suitable habitat:</b>            No suitable habitat was observed for the Rufa Red Knot within the Project Study Area and the northeastern project terminus is located approximately 2.7-miles (straight-line distance) from the shores of Lake Erie. As a result, this Project is not anticipated to have an impact on this species or its habitat.</p>	
	<p><b>Effect Determination:</b> No Effect</p>	

Species common name	Species scientific name	Listing status
Tricolored Bat	Perimyotis subflavus	Proposed Endangered
<p><b>Suitable habitat:</b>            During the spring and summer (April 1 through September 30), this species of bat predominately roost in living or dead clusters of leaves near the top of the crown of larger live trees. They also may rarely roost in structures, including bridges. In the winter, this species hibernates in caves, mines, and other underground structures that provide cool, humid areas with stable temperatures. In the Discussion below describe: The number of acres of wooded habitat and a</p>		

Species common name	Species scientific name	Listing status
<p>brief summary of age and quality of the stand, noting if there are any larger living trees possessing roosting habitat (living or dead clusters of leaves) for the species. If bridge structures are present within the project limits that will be impacted, and were inspected for the evidence/presence of bats (per the guidance for the Indiana and northern long-eared bats), summarize the results of the inspection. Additionally, note if any known hibernacula are near the project area or if areas suitable for hibernation were identified during a survey of the project area. Known or suspect hibernacula for the Indiana and northern long-eared bats would also be suitable for the tricolored bat.</p>		
<p>Design Build 1</p>	<p><b>Discussion including impacts to suitable habitat:</b></p> <p>During the field study suitable habitat for the tricolored bat was identified within the Project Study Area. Figure 6 shows the location of the 45.14-acres of suitable habitat within 100-feet of the edge of pavement and an additional 6.09-acres of suitable habitat outside of the 100-foot edge of pavement. This figure has been uploaded to the Project File/Ecological/ESR/Appendices.PDF. The August 23, 2023 Bat Buffer request response from FWS indicates the Project Study Area is not located within a Bat Buffer and ODNR has no Tricolor bat record within 1 mile of the project area. This project is a design build and will require tree cutting. As such this project is anticipated to impact all of the suitable tricolored bat habitat within the Project Study Area. A photographic log showing representative photos of potential roost trees and as well as existing conditions can be found in the Project File/Ecological/ESR/Appendices.PDF. Tree removal will only occur between October 1 and March 31 when the species would not be present. All of the pertinent AMMs listed in the OHPBO for Indiana bat and Northern long-eared bat will be followed, which will also protect this species from take.</p> <p>This project May Affect this species but is not going to jeopardize the continued existence of the species. Per the 11/15/2022 letter from USFWS outlining conferencing requirements for this species, this project does not need to be submitted for individual conferencing.</p>	
<p><b>Effect Determination:</b> May Affect, Likely to Adversely Affect</p>		

## 4.2 State Listed Species

**Date of the ONHDB check:** 09/18/2023

State listed species considered include:

- All of the endangered, threatened, or potentially threatened species records from the Ohio Natural Heritage Database for any animal species located within 1 mile of the project, and any plant species records within 0.5 mile of the project.
- Any state endangered and threatened animals suspected of being within the county (from the county range list provided by the DOW).
- Does not include species that have already been included in the Federally Listed Species table

**Project is within the range:** Within the Range of the Following State Listed Species

**State Listed Species:**

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area	Listing status	A record is within 1 mile of the project if it is an animal species, or within 0.5 mile of the project if it is a plant species	Proximity to the project (ft.)
Round-leaved Dogwood	Cornus rugosa	Yes	Threatened	Yes	0

**Description of suitable habitat:**

Round-leaved Dogwood (Cornus rugosa) is a perennial woody plant, with a preferred habitat consisting of upland deciduous and mixed forest, thickets, and/or rocky slopes in part shade to sun.

Design Build 1	<b>The species or its suitable habitat will be impacted by this project:</b> Yes
	<b>Discussion of impacts to suitable habitat or species:</b> Suitable habitat, including upland mixed deciduous woods and scrub/shrub communities were observed within the LOR-90-10.76 Project Area; however, a species specific plant survey was not conducted. The ODNR record locations identified within the LOR-90-10.76 Project Area for Round-leaved Dogwood is located within the Lorain County Metro Parks' Black River Reservation - Bur Oak Picnic Area. Both the eastbound and westbound lanes currently span (bridge) the Reservation Picnic Area. This Design Build project will not impact below the existing bridges over the Black River, nor within the Black River Reservation, therefore impacts to this species are not likely.
	<b>Effect determination:</b> Not Likely to Impact

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area	Listing status	A record is within 1 mile of the project if it is an animal species, or within 0.5 mile of the project if it is a plant species	Proximity to the project (ft.)
Canada Buffalo-berry	Shepherdia canadensis	Yes	Threatened	Yes	0

**Description of suitable habitat:**

Canada Buffalo-berry is a perennial woody plant, with habitat preferences that include dry, rocky soil in either part shade or sun within open woods, along forest edges and/or riverbanks. This plant can also be found growing on rocky shores and outcrops.

Design Build 1	<b>The species or its suitable habitat will be impacted by this project:</b> Yes
	<b>Discussion of impacts to suitable habitat or species:</b> Suitable habitat, including forest edges and riverbanks were observed within the LOR-90-10.76 Project Area; however, a species specific plant survey was not conducted. The ODNR record locations identified within the LOR-90-10.76 Project Area for Canada Buffalo-berry is located within the Lorain County Metro Parks' Black River Reservation - Bur Oak Picnic Area. Both the eastbound and westbound lanes currently span (bridge) the Reservation Picnic Area. This Design Build project will not impact below the existing bridges over the Black River, nor within the Black River Reservation, therefore impacts are not likely to this species.
	<b>Effect determination:</b> Not Likely to Impact

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area	Listing status	A record is within 1 mile of the project if it is an animal species, or within 0.5 mile of the project if it is a plant species	Proximity to the project (ft.)
Tower Mustard	Turritis glabra	Yes	Potentially Threatened	Yes	2400

**Description of suitable habitat:**



Species common name	Species scientific name	The species or its suitable habitat is present within the project study area	Listing status	A record is within 1 mile of the project if it is an animal species, or within 0.5 mile of the project if it is a plant species	Proximity to the project (ft.)
Tower Mustard ( <i>Turritis glabra</i> ) prefers to grow in full sun to light shade in mesic to dry conditions, within loam, clay-loam, or rocky soils. Habitat includes rocky open woodlands, barren savannas, limestone glades, rocky bluffs, prairies, and abandoned fields. These perennials bloom late spring into summer, approximately May-July.					
Design Build 1	<b>The species or its suitable habitat will be impacted by this project: Yes</b>				
	<b>Discussion of impacts to suitable habitat or species:</b> The developed open space community within the LOR-90-10.76 project limits offers little habitat for the potentially state threatened perennial Tower Mustard plant. A plant specific survey was not conducted regarding the Tower Mustard. The 201.21-acres of developed open space within the LOR-90-10.76 project limits consists of a seasonally mowed plant community, which is dominated by herbaceous ruderal species. The developed open space community is mostly located within the median of Interstate 90, within the median of the entrance and exit ramps, and along the shoulder of the existing westbound and eastbound lanes. This Project is a design-build, but there is no work proposed on the bridge carrying I-90 across the Black River or within the Black River Reservation which would have the highest chance of harboring this species.				
	<b>Effect determination: Not Likely to Impact</b>				

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area	Listing status	A record is within 1 mile of the project if it is an animal species, or within 0.5 mile of the project if it is a plant species	Proximity to the project (ft.)
Little brown bat	<i>Myotis lucifugus</i>	Yes	Endangered	No	
<b>Description of suitable habitat:</b> The entire state of Ohio is within range of the little brown bat ( <i>Myotis lucifugus</i> ), a state endangered species. During the spring and summer (April 1 through September 30), the little brown bat predominately roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. This species is also dependent on the forest structure surrounding the roost trees. In the winter, this species hibernates in caves, mines, and other underground structures that provide cool, humid areas with stable temperatures.					
Design Build 1	<b>The species or its suitable habitat will be impacted by this project: Yes</b>				
	<b>Discussion of impacts to suitable habitat or species:</b> Figure 8 shows the location of the 51.23 acres of wooded habitat within the study area. This figure has been uploaded to the Project File/Ecological/ESR/Appendices.PDF. The August 23, 2023 Bat Buffer request response from FWS indicates the Project Study Area is not located within a Bat Buffer. This project is a design build and will require tree cutting. As such this project is anticipated to impact all of the wooded habitat within the Project Study Area. A photographic log showing representative photos of potential roost trees and as well as existing conditions can be found in the Project File/Ecological/ESR/Appendices.PDF. Tree removal will only occur between October 1 and March 31 when the species would not be present.				
	<b>Effect determination: No Impact</b>				

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area	Listing status	A record is within 1 mile of the project if it is an animal species, or within 0.5 mile of the project if it is a plant species	Proximity to the project (ft.)
Blanding's turtle	Emydoidea blandingii	Yes	Endangered	No	

**Description of suitable habitat:**

The Blanding's turtle inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from one wetland to the next.

Design Build 1	<b>The species or its suitable habitat will be impacted by this project:</b> Yes
	<b>Discussion of impacts to suitable habitat or species:</b> Blanding's turtle habitat includes wetlands, which are anticipated to be impacted by the project. Blanding's turtles are essentially aquatic; however, the wetlands within the project area are not documented as being connected to ground water, therefore, are expected to be dry at different times throughout the year. The lack of water makes the wetland unusable for foraging Blanding's turtles. The wetlands proposed to be impacted by the project are also low quality (Category 1 wetlands) along an urban roadway. Based on the items discussed and that the work is expected to occur while the turtles are mobile (not hibernating), impacts are not likely to the Blanding's turtle.
	<b>Effect determination:</b> Not Likely to Impact

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area
Sandhill crane	Grus canadensis	No

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area	Listing status	A record is within 1 mile of the project if it is an animal species, or within 0.5 mile of the project if it is a plant species	Proximity to the project (ft.)
Spotted turtle	Clemmys guttata	Yes	Threatened	No	

**Description of suitable habitat:**

The spotted turtle prefers shallow waters of wetlands including fens, bogs, marches, wet prairies and meadows, as well as small ponds, ditches, and small streams with large amounts of vegetation.

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area	Listing status	A record is within 1 mile of the project if it is an animal species, or within 0.5 mile of the project if it is a plant species	Proximity to the project (ft.)
Design Build 1	The species or its suitable habitat will be impacted by this project: Yes				
	Discussion of impacts to suitable habitat or species:				
	Effect determination: Not Likely to Impact				

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area
Upland sandpiper	Bartramia longicauda	No

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area
Northern harrier	Circus hudsonius	No

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area
American bittern	Botaurus lentiginosus	No

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area
Trumpeter swan	Cygnus buccinator	No

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area
Lark sparrow	Chondestes grammacus	No

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area
Least bittern	Ixobrychus exilis	No

Species common name	Species scientific name	The species or its suitable habitat is present within the project study area
Black-crowned night-heron	Nycticorax nycticorax	No

## 5 Literature Cited

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Ohio Environmental Protection Agency (OEPA). 2014. 2014 updates to Biological Criteria for the Protection of Aquatic Life: Volume II and Volume II Addendum. Users manual for biological field assessment of Ohio surface waters. Division of Surface Water, Ecological Assessment Section, Columbus, OH.

## 6 Appendices

### Appendix 1: Mapping:

- Topographic Map\*
- County Map
- Aerial Photo\*
- Water Resource Map\*
- Suitable Wooded Habitat

### Appendix 2: Photo Log:

- Photo Location Map\*
- Project Photos\*
- Bat Habitat Photos

### Appendix 3: Plans:

### Appendix 4: Forms:

- QHEI\*
- HHEI\*
- Wetland Delineation\*
- ORAM\*

### Appendix 5: Agency Data Requests:

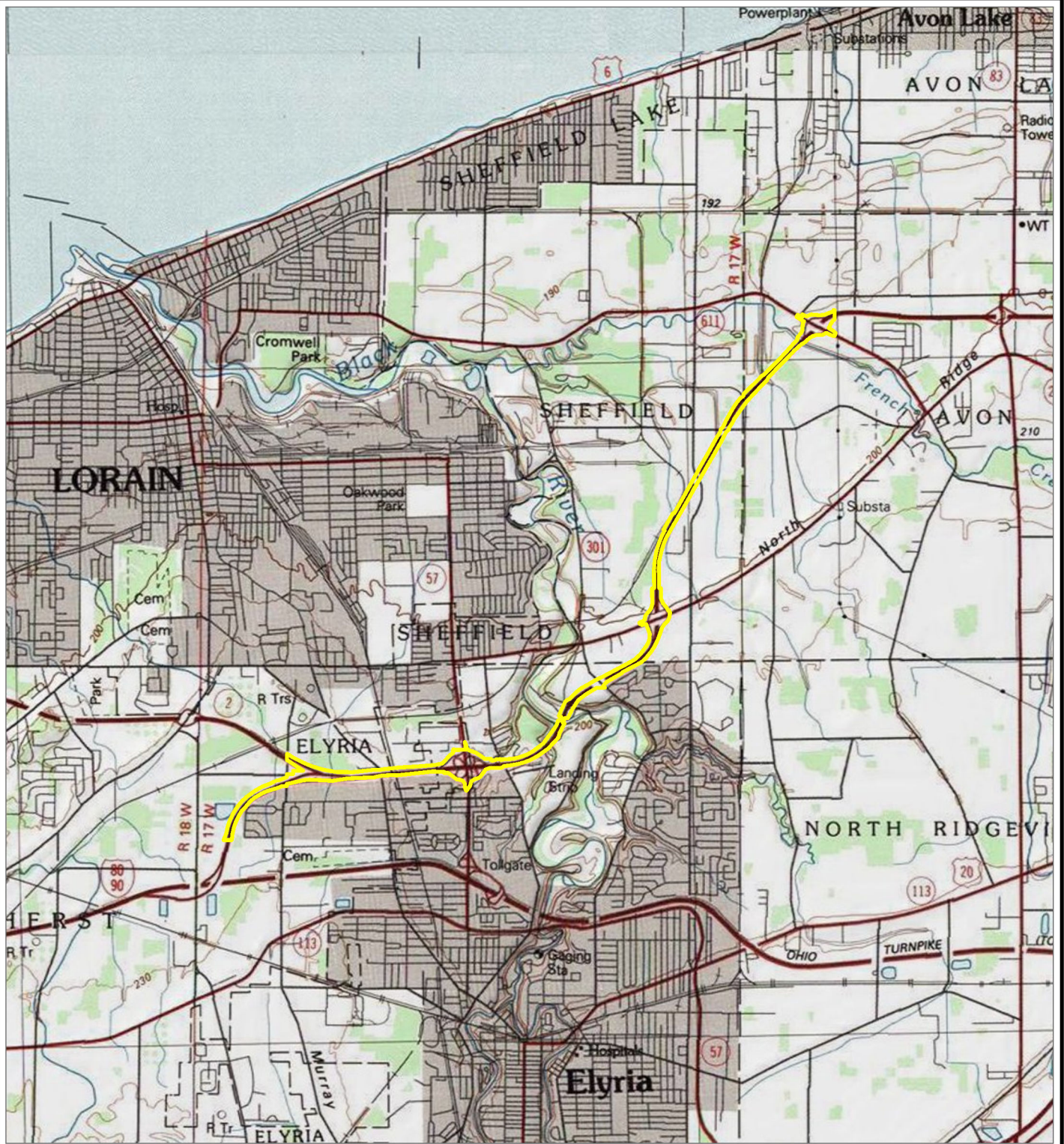
- ODNR - Ohio Natural Heritage Database Search Results
- USFWS - Bat Record Search Results

### Appendix 6: List of Supporting Survey Report Titles or Literature Sources:

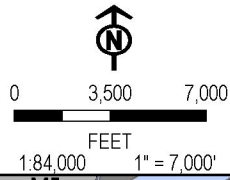
## **Appendix 1**

### **Mapping**





PROJECT STUDY AREA

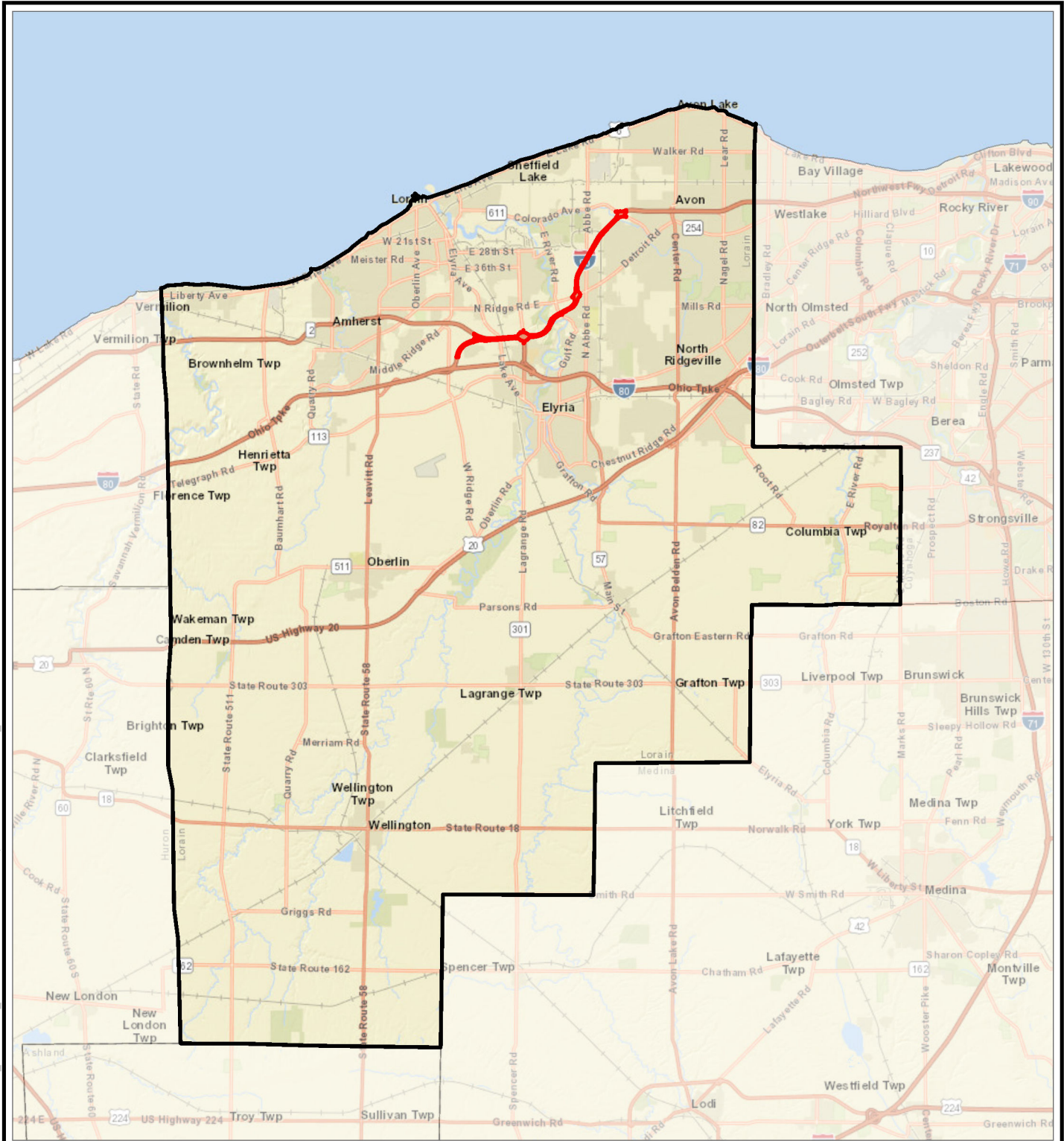


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DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 1</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	AUGUST 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR	

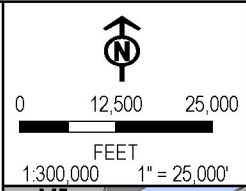
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 PROJECT STUDY AREA

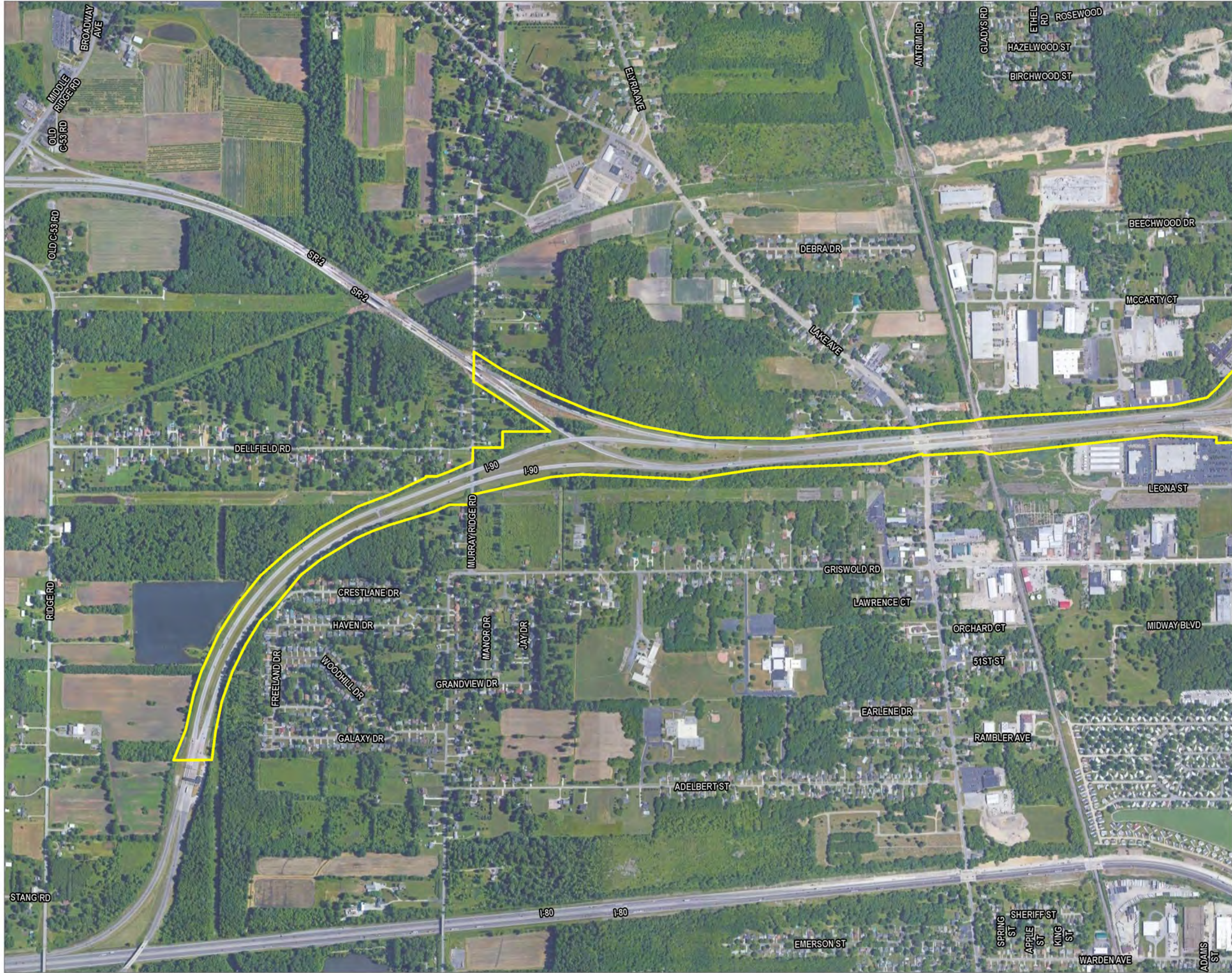


BASE MAP: WORLD STREET MAP

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DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 2</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	AUGUST 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR	



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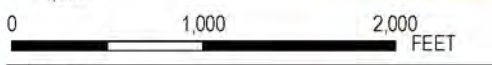


PROJECT STUDY AREA

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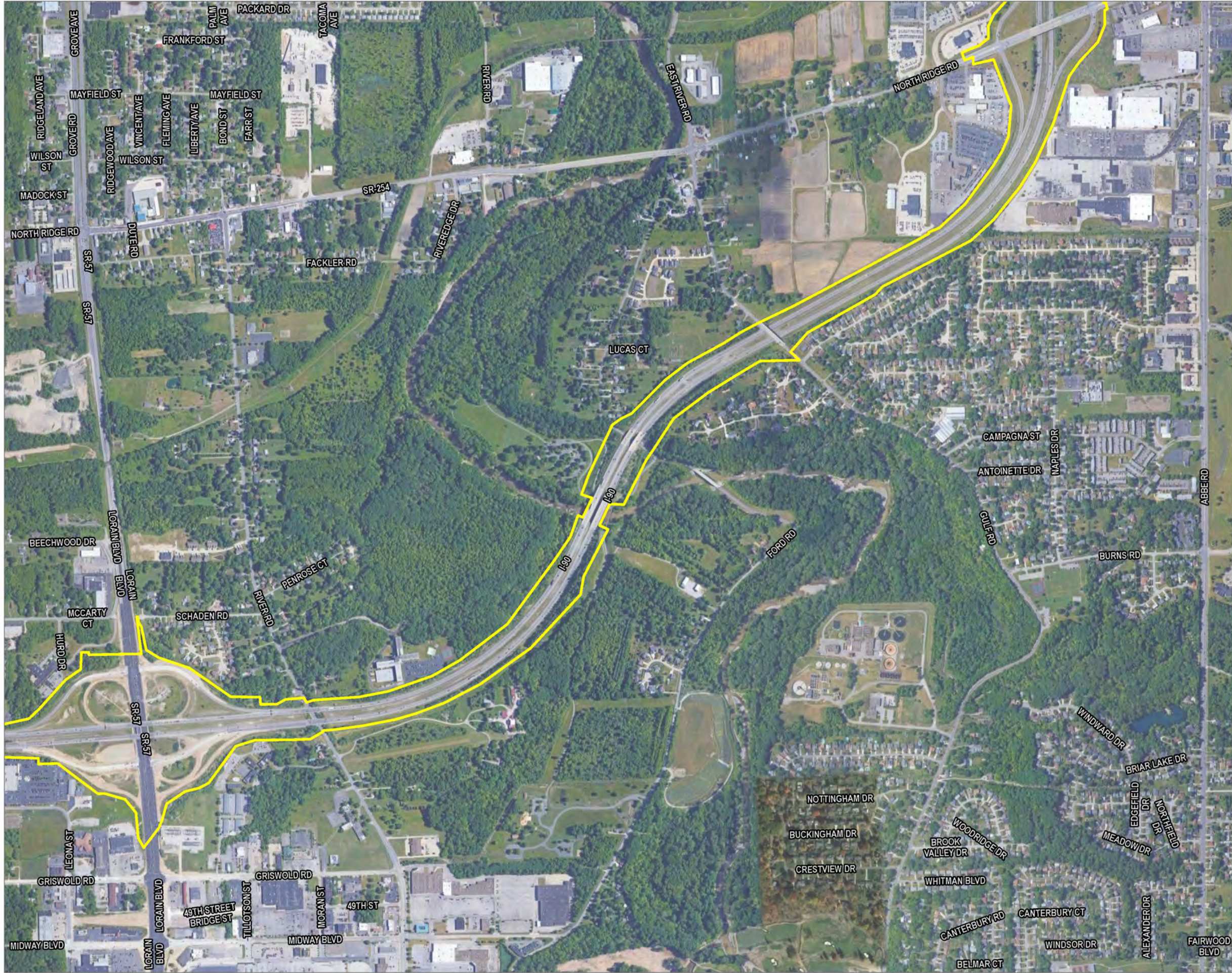



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DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 3 (PAGE 1 OF 4)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	SEPTEMBER 2023	 1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
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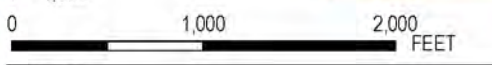



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APPROVED BY:	S. SCHIMMOELLER		
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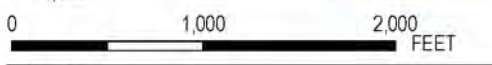



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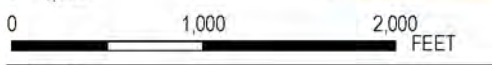


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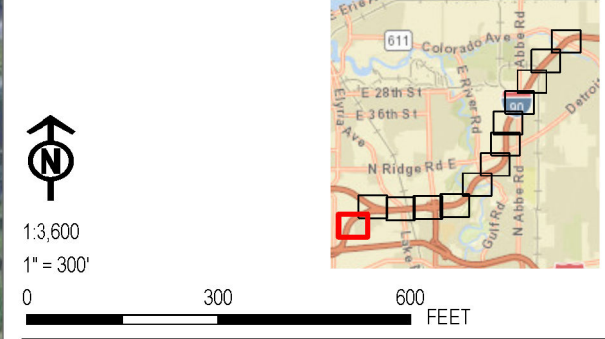
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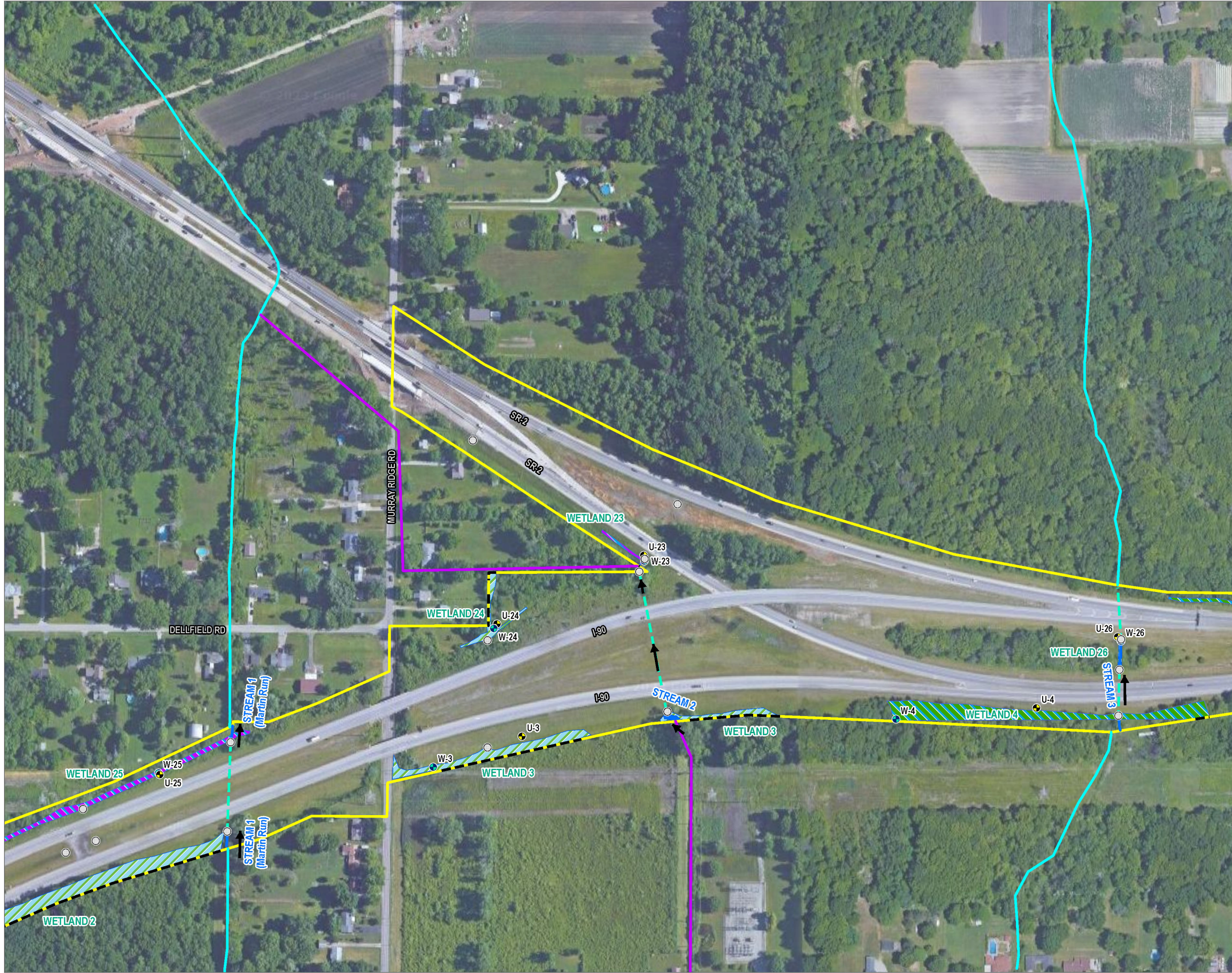
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- CULVERTED/UNDER BRIDGE STREAM
- TRC ESTIMATED STREAM LOCATION OUTSIDE STUDY AREA
- STREAM FLOW
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
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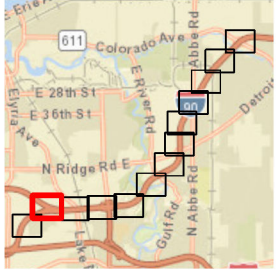
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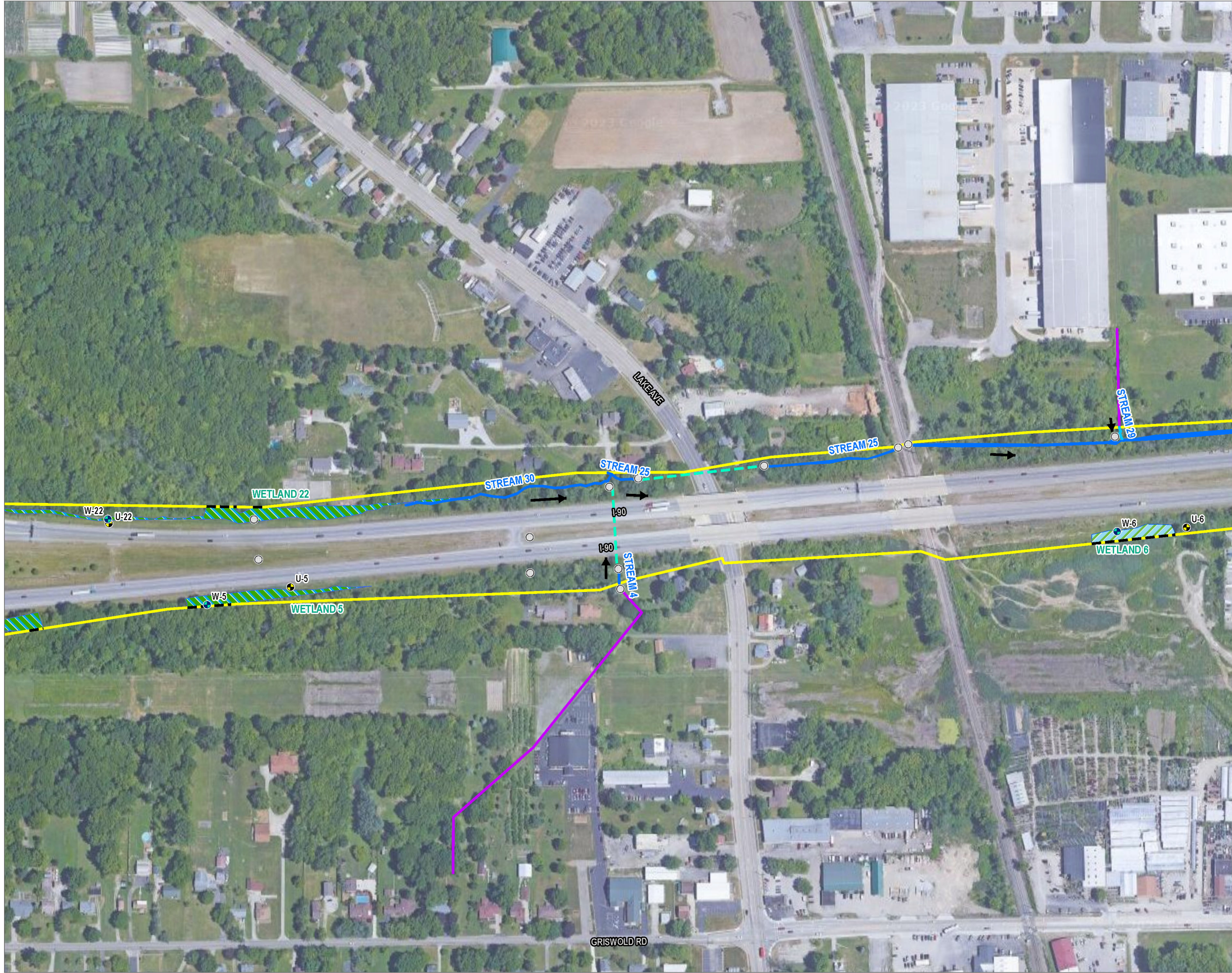
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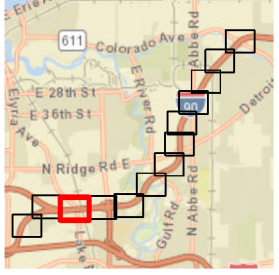


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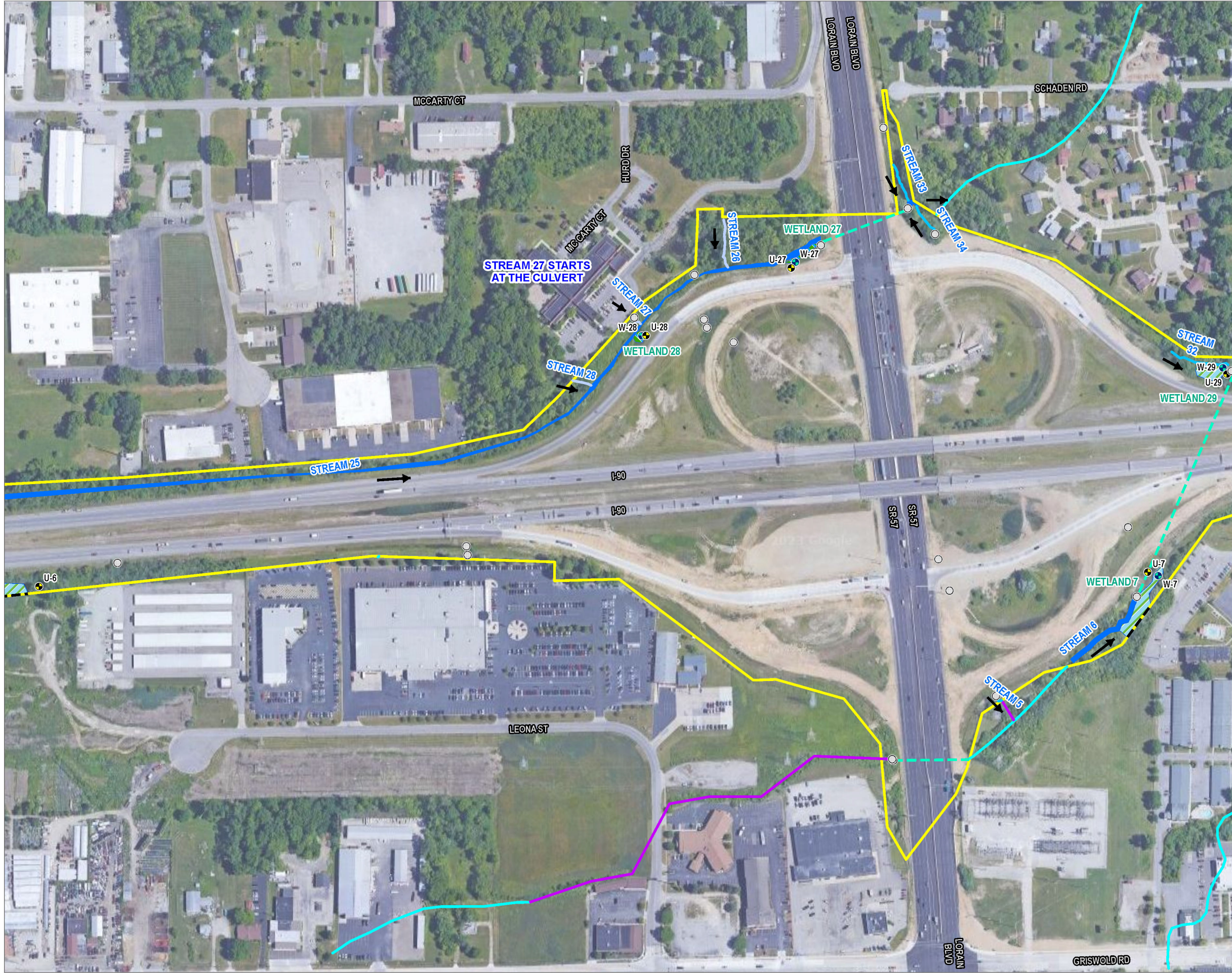


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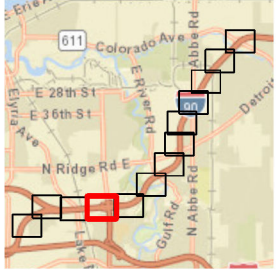
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APPROVED BY: S. SCHIMMOELLER	
DATE: DECEMBER 2023	
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- PEM WETLAND (EMERGENT)
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- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
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- UPLAND DATA POINT

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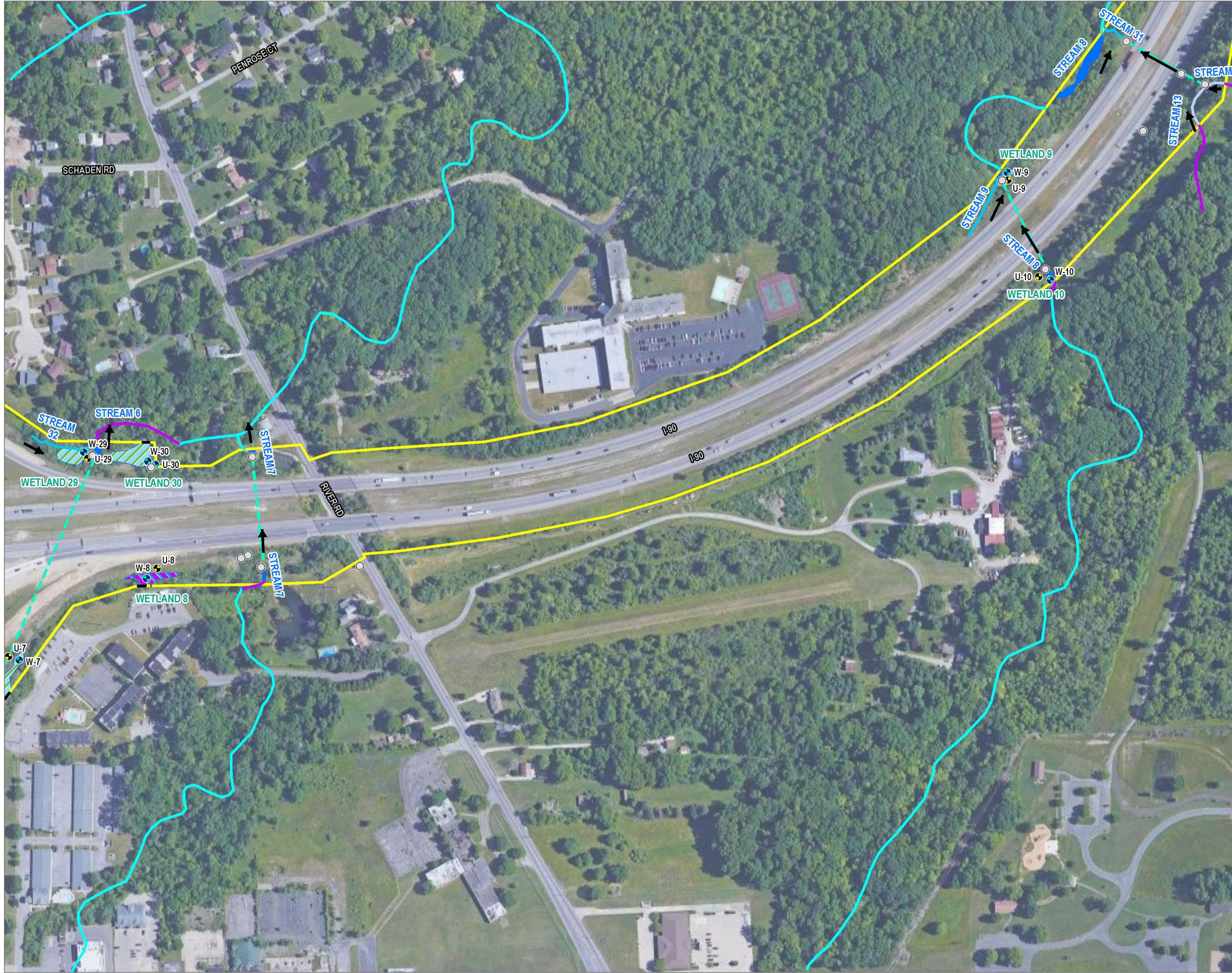


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APPROVED BY:	S. SCHIMMOELLER		
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		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
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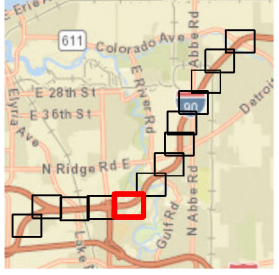


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- NATIONAL HYDROGRAPHY DATASET (NHD) STREAM OUTSIDE STUDY AREA
- CULVERTED/UNDER BRIDGE STREAM
- TRC ESTIMATED STREAM LOCATION OUTSIDE STUDY AREA
- STREAM FLOW
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.

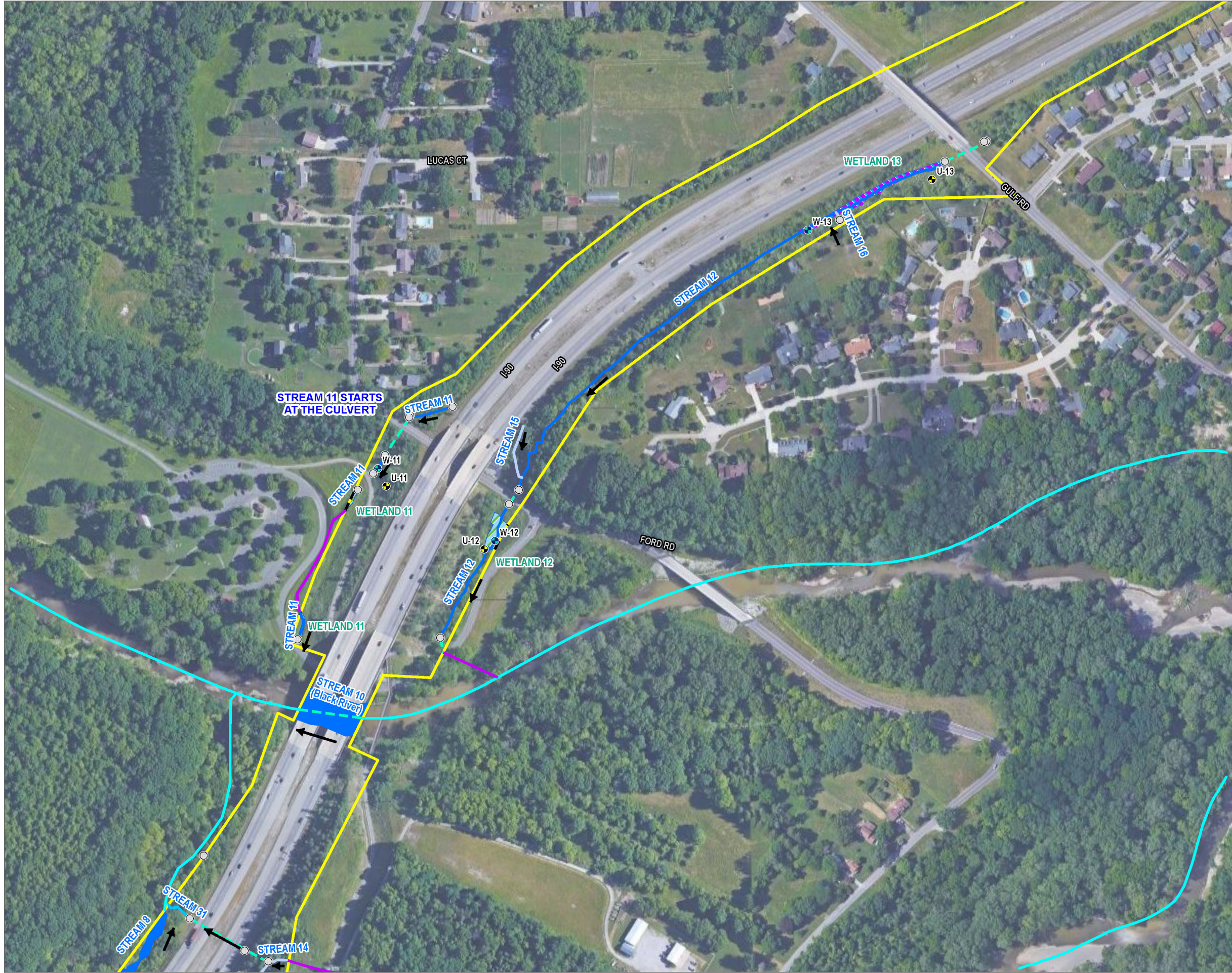


1:3,600  
 1" = 300'



<b>PROJECT:</b>		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
<b>TITLE:</b>			
<b>DELINEATED RESOURCES MAP</b>			
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 4</b> (PAGE 5 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	DECEMBER 2023		
		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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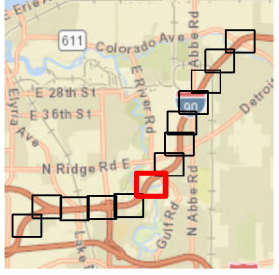


- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- NATIONAL HYDROGRAPHY DATASET (NHD) STREAM OUTSIDE STUDY AREA
- CULVERTED/UNDER BRIDGE STREAM
- TRC ESTIMATED STREAM LOCATION OUTSIDE STUDY AREA
- STREAM FLOW
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.

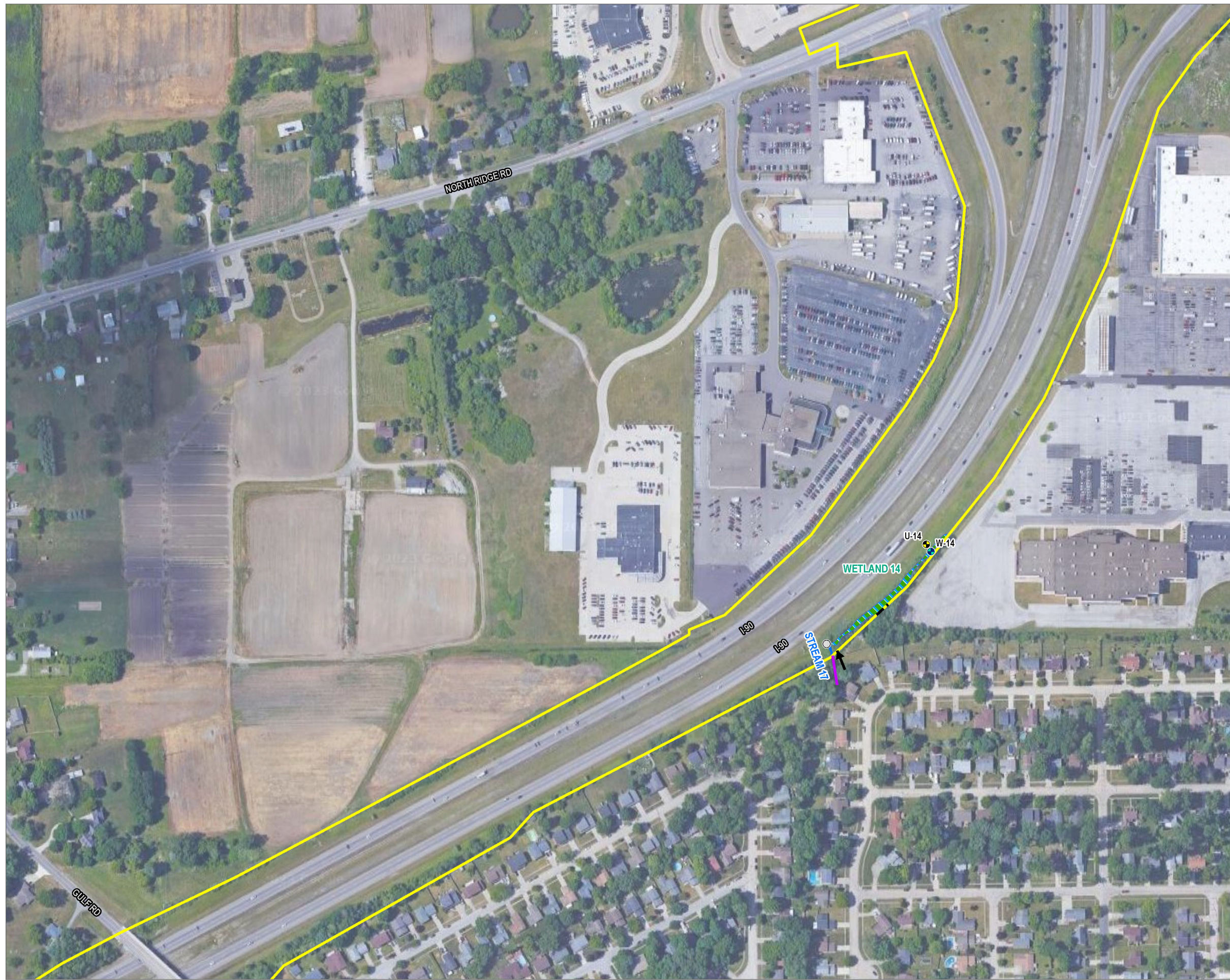


1:3,600  
 1" = 300'



<b>PROJECT:</b>		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
<b>TITLE:</b>		<b>DELINEATED RESOURCES MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 4</b> (PAGE 6 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	DECEMBER 2023	<div style="font-size: x-small; display: inline-block; vertical-align: middle; margin-left: 10px;">             1382 WEST NINTH STREET              SUITE 400              CLEVELAND, OH 44113              PHONE: 216-344-3072           </div>	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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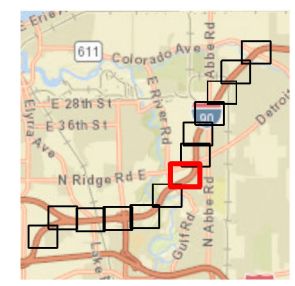


- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- NATIONAL HYDROGRAPHY DATASET (NHD) STREAM OUTSIDE STUDY AREA
- CULVERTED/UNDER BRIDGE STREAM
- TRC ESTIMATED STREAM LOCATION OUTSIDE STUDY AREA
- STREAM FLOW
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.

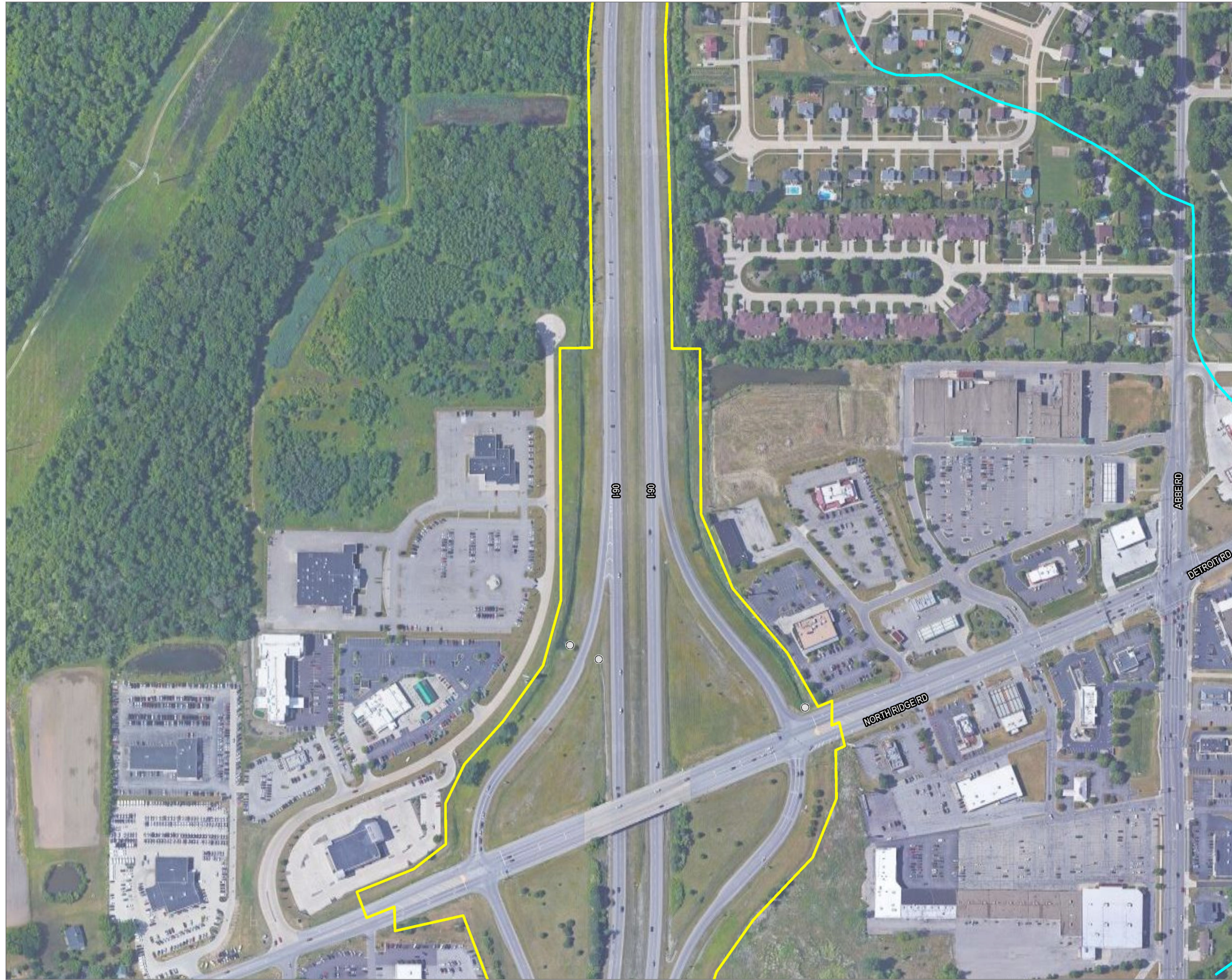


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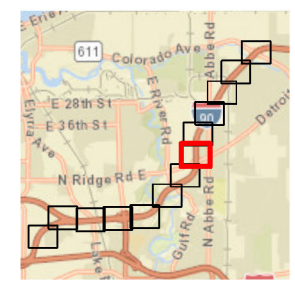
PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>DELINEATED RESOURCES MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 4</b> (PAGE 7 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	DECEMBER 2023		
<b>TRC</b>		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
 - Saved By: MOPEL on 12/21/2023, 10:06:09 AM; File Path: T:\PROJECTS\Ohio\_DOT\528418\_LOR-90-10762-APRX\ESR.aprx; Layout Name: Fig04\_Resources



- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- NATIONAL HYDROGRAPHY DATASET (NHD) STREAM OUTSIDE STUDY AREA
- CULVERTED/UNDER BRIDGE STREAM
- TRC ESTIMATED STREAM LOCATION OUTSIDE STUDY AREA
- STREAM FLOW
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.

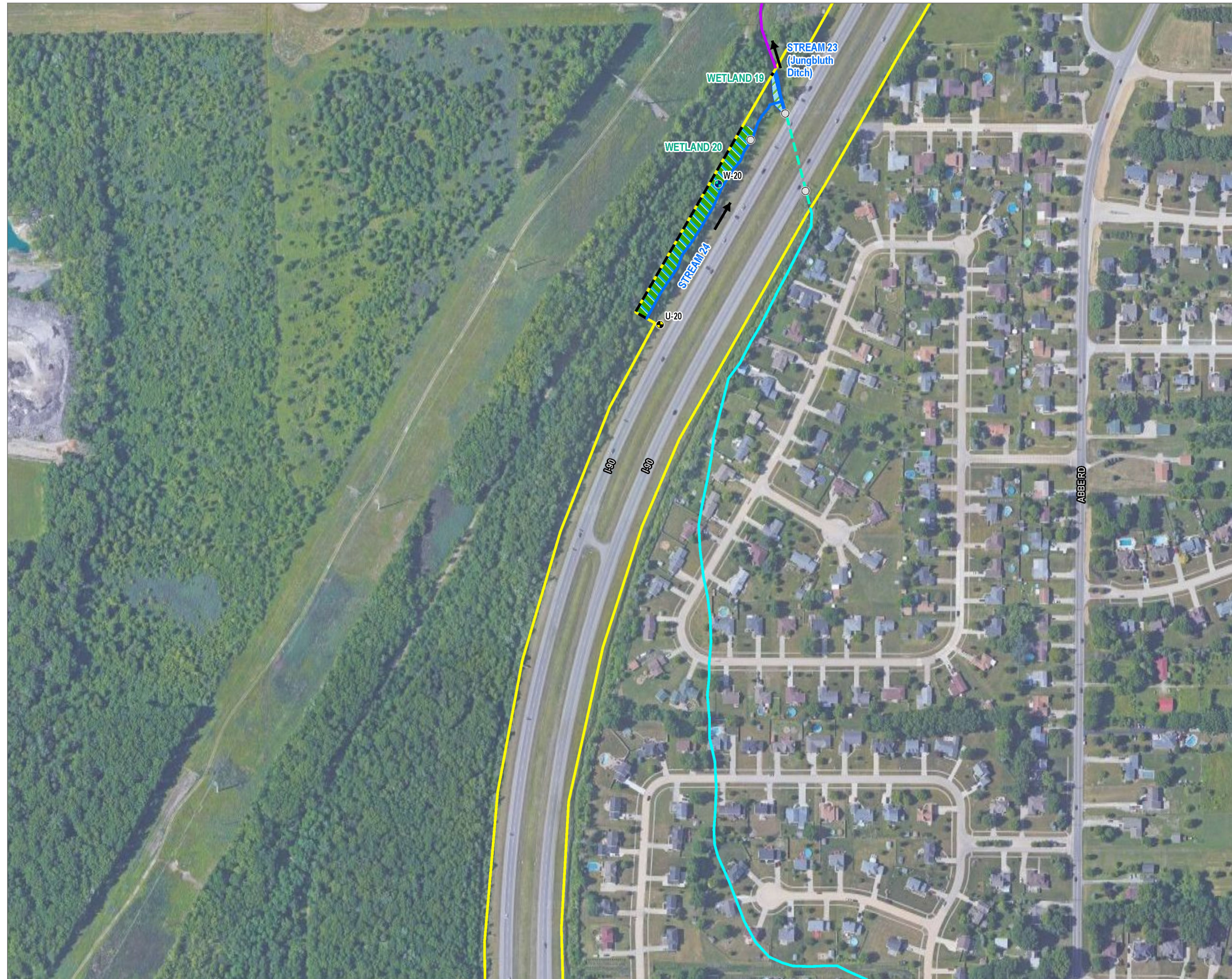


1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:			
<b>DELINEATED RESOURCES MAP</b>			
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 4</b> (PAGE 8 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	DECEMBER 2023		
		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			ESR.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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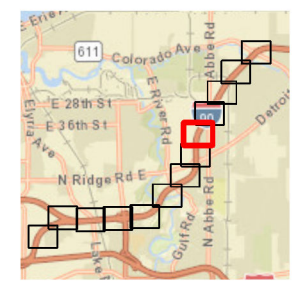


- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- NATIONAL HYDROGRAPHY DATASET (NHD) STREAM OUTSIDE STUDY AREA
- CULVERTED/UNDER BRIDGE STREAM
- TRC ESTIMATED STREAM LOCATION OUTSIDE STUDY AREA
- STREAM FLOW
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.

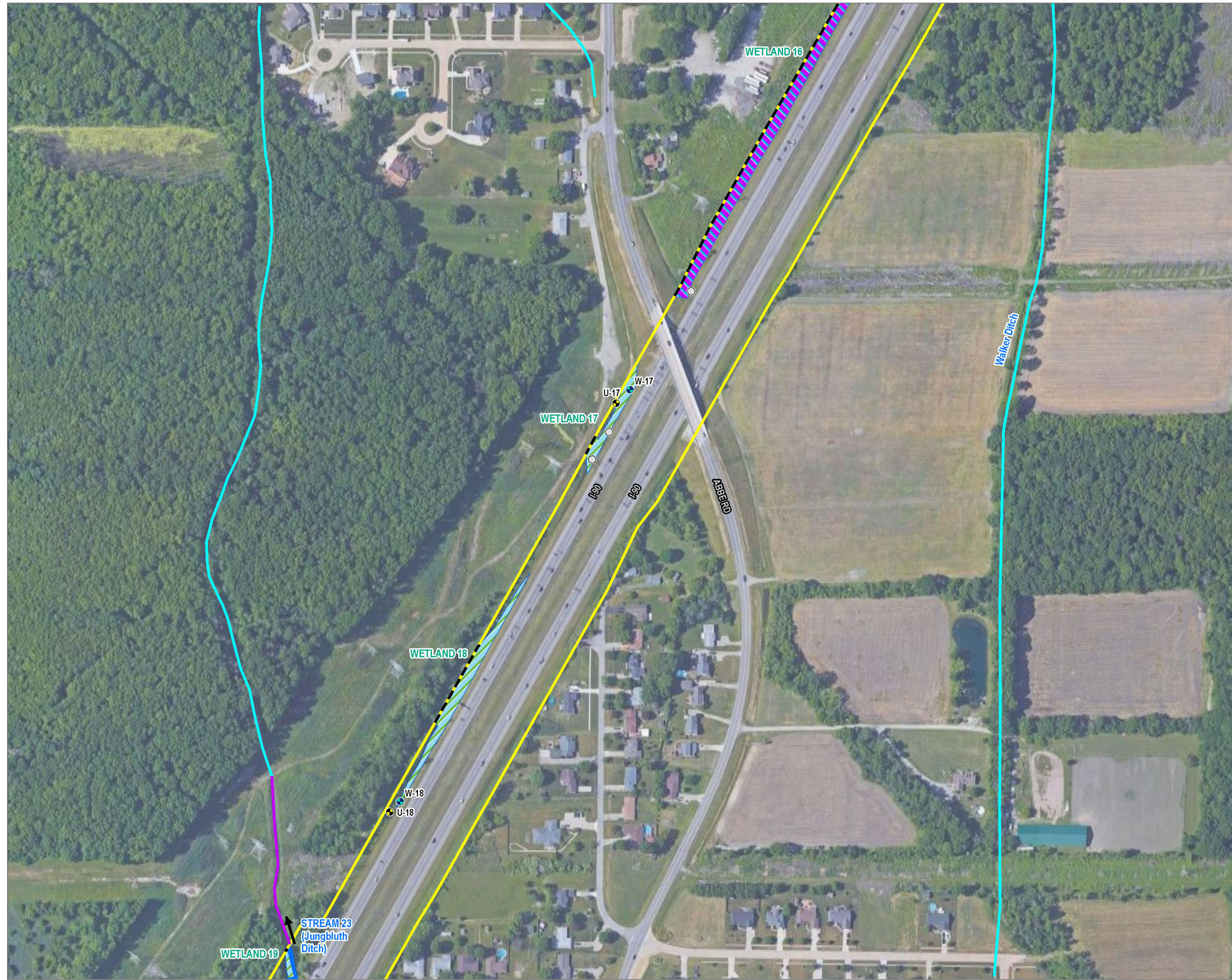


1:3,600  
 1" = 300'



<b>PROJECT:</b>		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
<b>TITLE:</b>			
<b>DELINEATED RESOURCES MAP</b>			
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 4</b> (PAGE 9 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	DECEMBER 2023		
		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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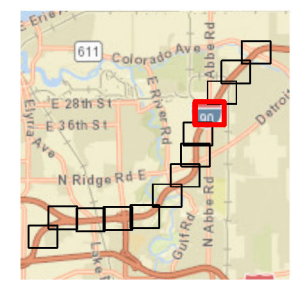


- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- NATIONAL HYDROGRAPHY DATASET (NHD) STREAM OUTSIDE STUDY AREA
- CULVERTED/UNDER BRIDGE STREAM
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- STREAM FLOW
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



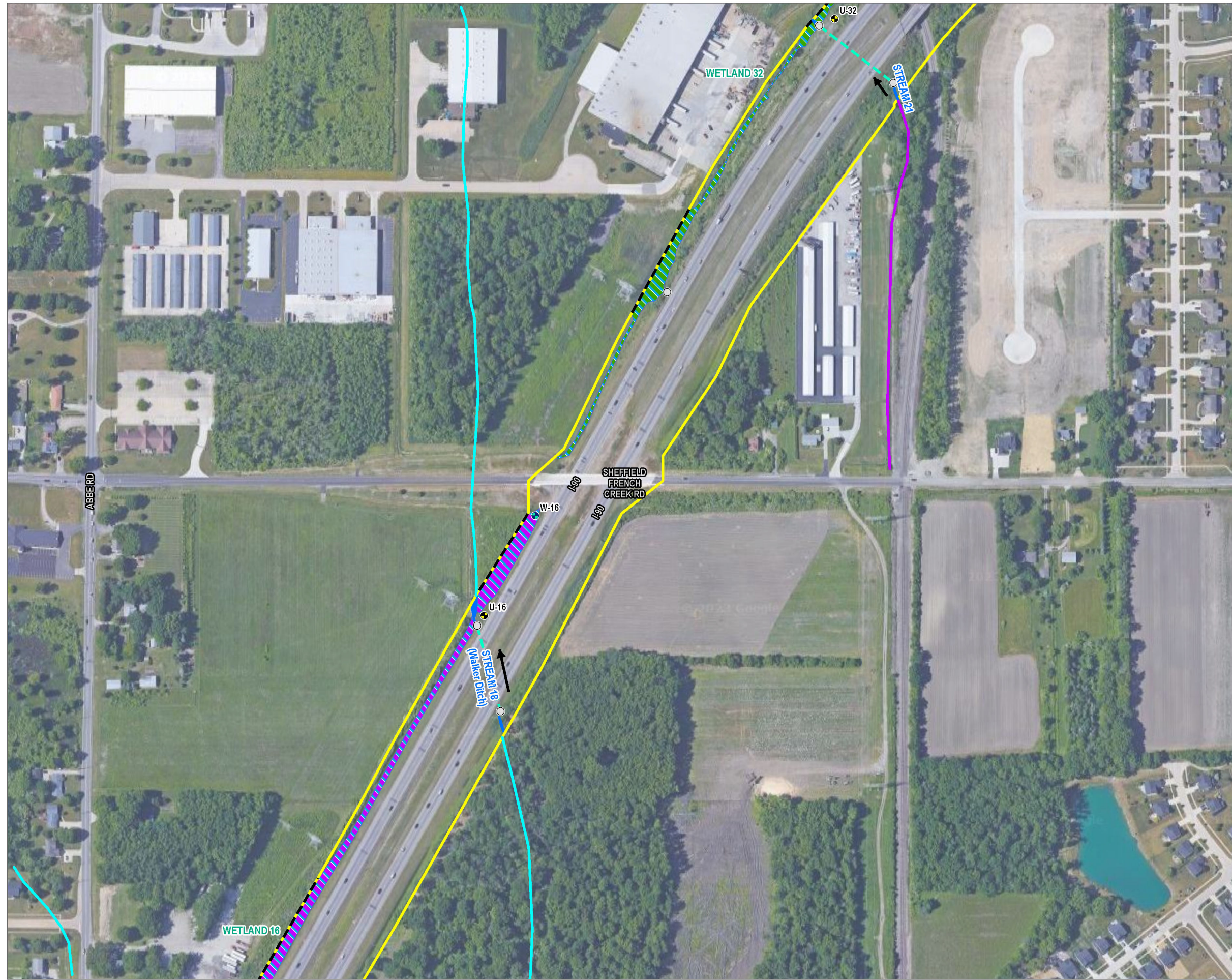
1:3,600  
 1" = 300'



<b>PROJECT:</b>		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
<b>TITLE:</b>			
<b>DELINEATED RESOURCES MAP</b>			
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 4</b> (PAGE 10 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	DECEMBER 2023		
		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	



Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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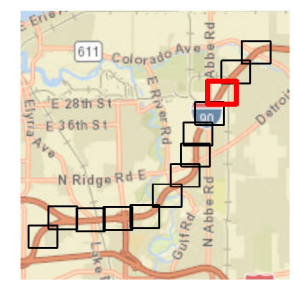
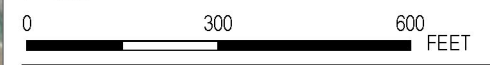


- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- NATIONAL HYDROGRAPHY DATASET (NHD) STREAM OUTSIDE STUDY AREA
- CULVERTED/UNDER BRIDGE STREAM
- TRC ESTIMATED STREAM LOCATION OUTSIDE STUDY AREA
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- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.

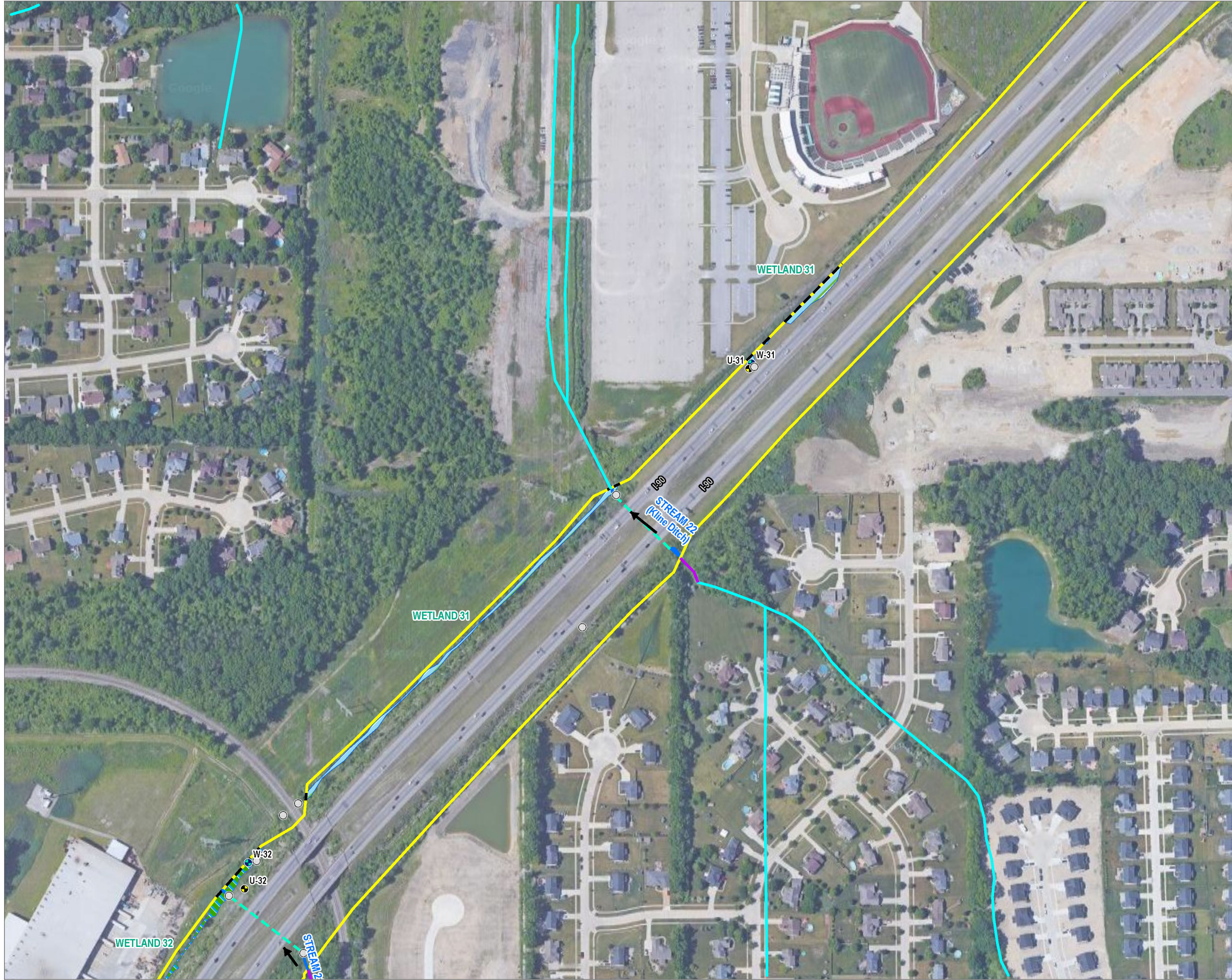


1:3,600  
 1" = 300'



<b>PROJECT:</b>		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
<b>TITLE:</b>			
<b>DELINEATED RESOURCES MAP</b>			
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 4</b> (PAGE 11 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	DECEMBER 2023		
<b>TRC</b>		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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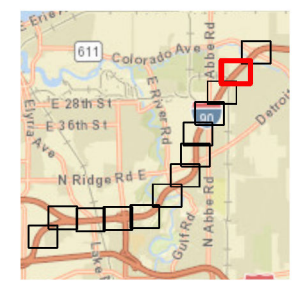


- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- NATIONAL HYDROGRAPHY DATASET (NHD) STREAM OUTSIDE STUDY AREA
- CULVERTED/UNDER BRIDGE STREAM
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- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.

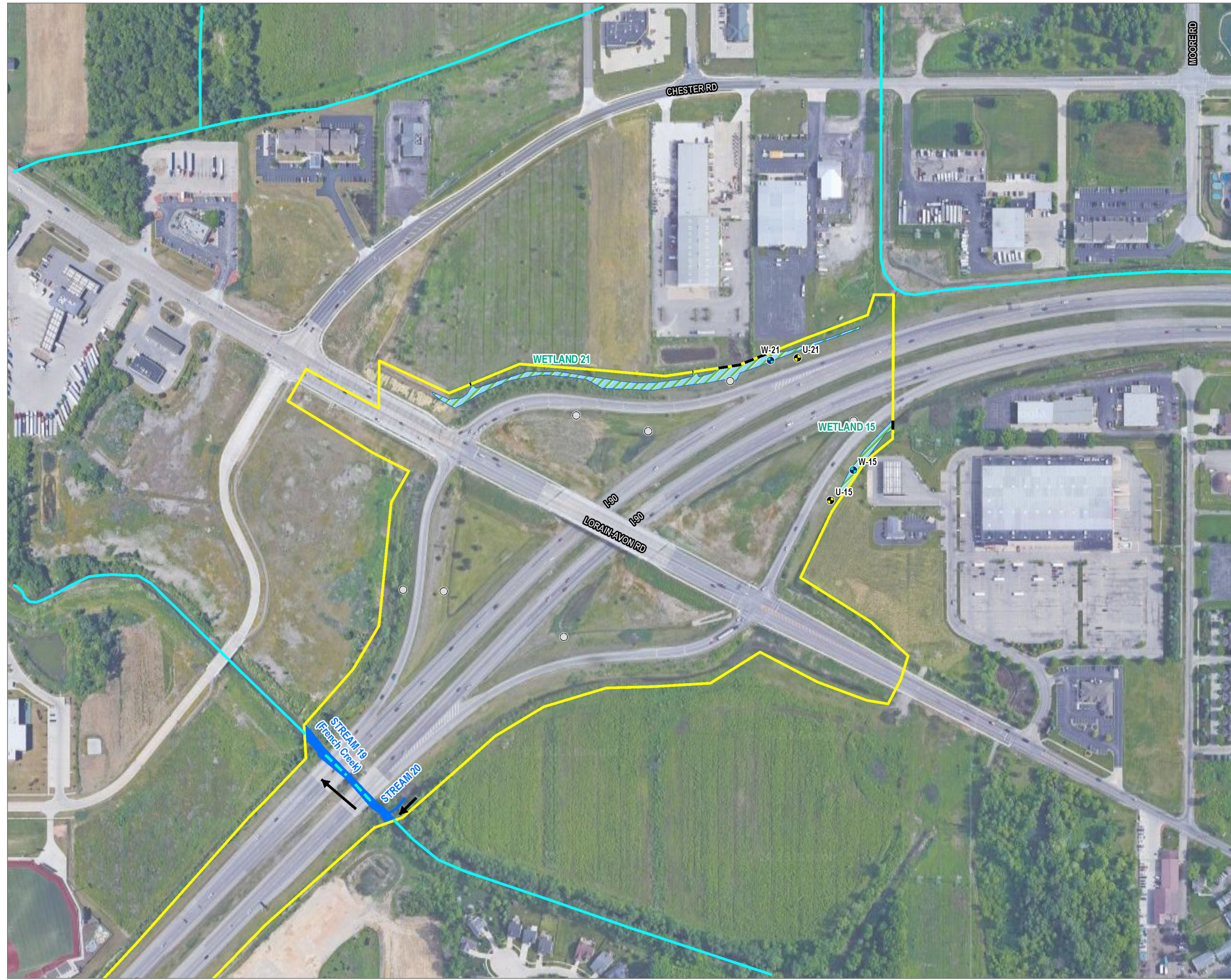


1:3,600  
 1" = 300'



<b>PROJECT:</b>		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
<b>TITLE:</b>			
<b>DELINEATED RESOURCES MAP</b>			
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 4</b> (PAGE 12 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	DECEMBER 2023		
		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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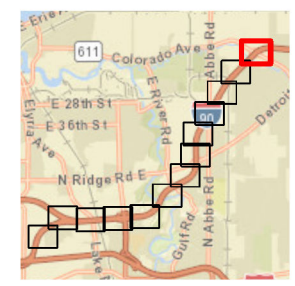


- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- NATIONAL HYDROGRAPHY DATASET (NHD) STREAM OUTSIDE STUDY AREA
- CULVERTED/UNDER BRIDGE STREAM
- TRC ESTIMATED STREAM LOCATION OUTSIDE STUDY AREA
- STREAM FLOW
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>DELINEATED RESOURCES MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 4</b> (PAGE 13 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	DECEMBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA**
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
  - DEVELOPED, OPEN SPACE (DS)
  - UPLAND FOREST (UF)
  - SCRUB/SCRUB (SS)
  - MARSH (MA)
  - SHRUB SWAMP (SH)
  - FORESTED SWAMP (FS)
  - OPEN WATER (OW)

LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



PROJECT: **LOR-90-10.76 (PID 107714)**  
**LORAIN COUNTY, OHIO**

TITLE: **LAND COVER MAP**

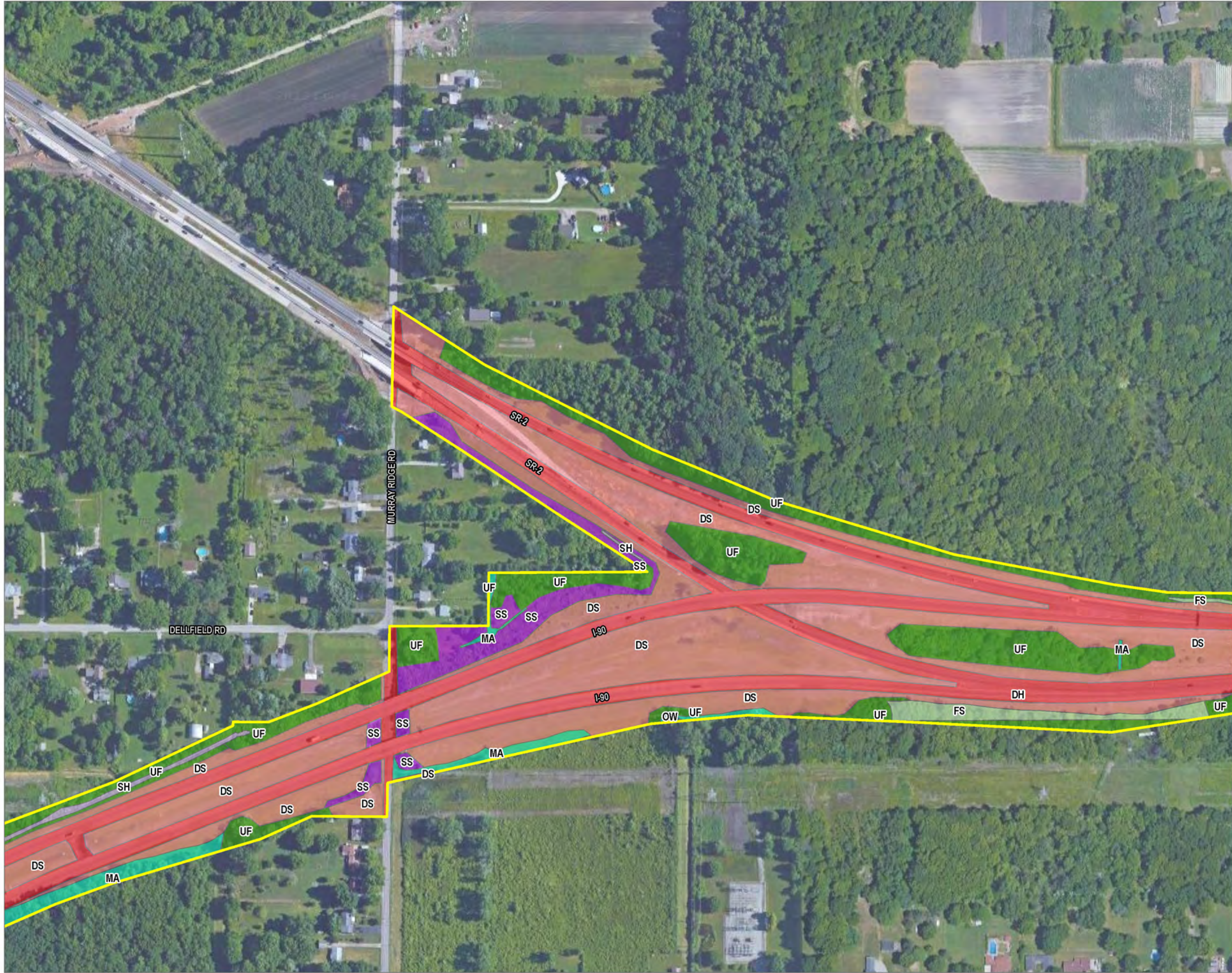
DRAWN BY: M. OPEL      PROJ. NO.: 528418  
 CHECKED BY: E. GIVEN  
 APPROVED BY: S. SCHIMMOELLER  
 DATE: OCTOBER 2023

**FIGURE 5**  
 (PAGE 1 OF 13)

**TRC**      1382 WEST NINTH STREET  
 SUITE 400  
 CLEVELAND, OH 44113  
 PHONE: 216-344-3072

FILE: ESR.aprx

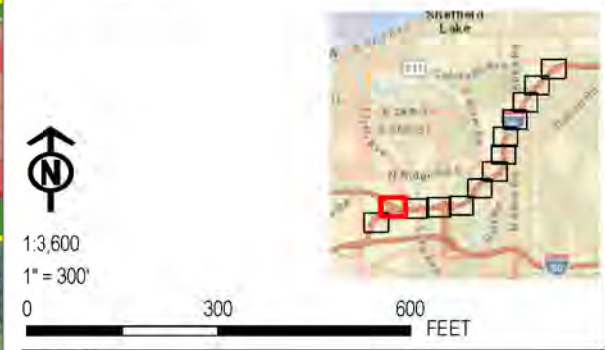
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- PROJECT STUDY AREA**
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
  - DEVELOPED, OPEN SPACE (DS)
  - UPLAND FOREST (UF)
  - SCRUB/SCRUB (SS)
  - MARSH (MA)
  - SHRUB SWAMP (SH)
  - FORESTED SWAMP (FS)
  - OPEN WATER (OW)

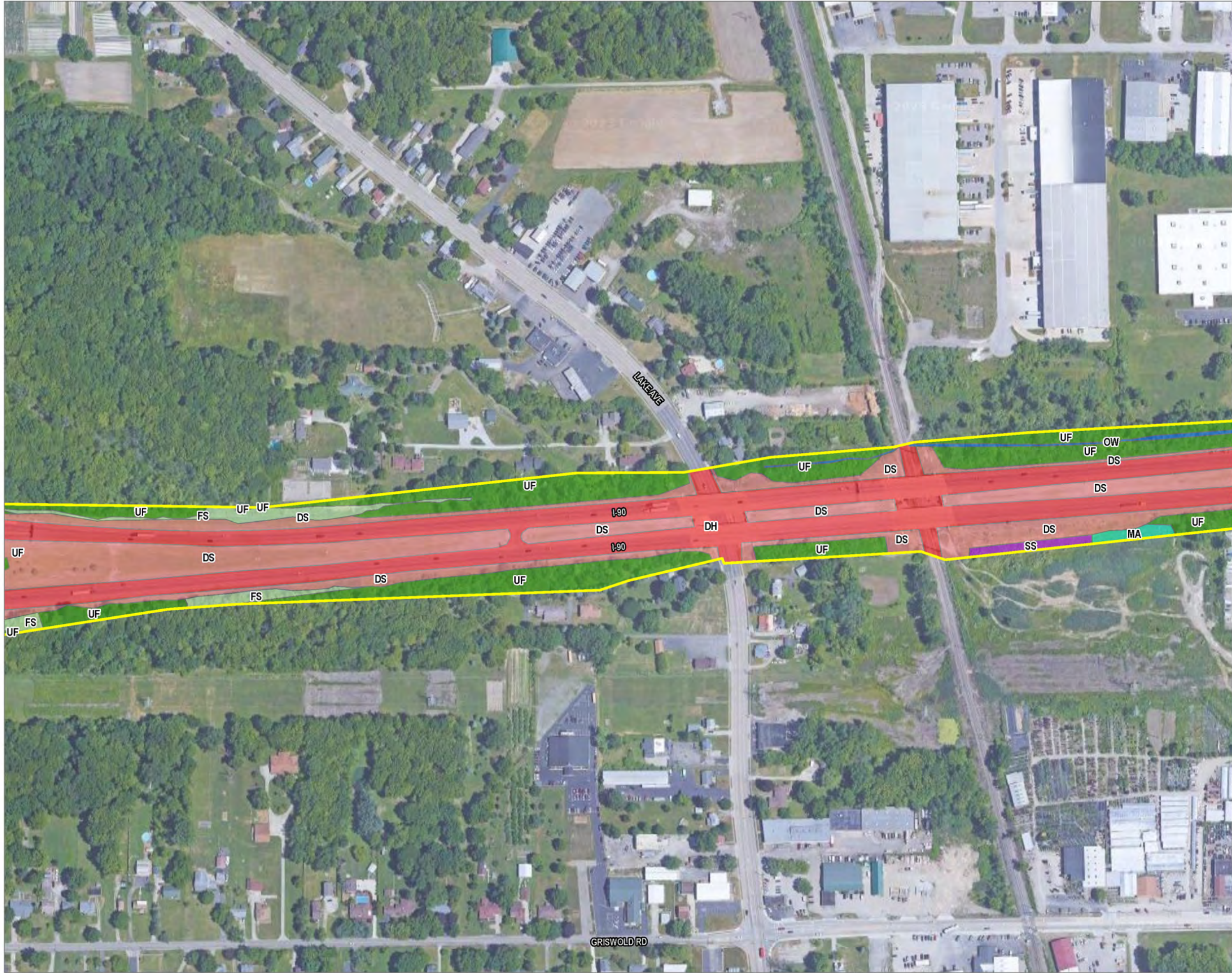
LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>LAND COVER MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 2 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	 1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA**
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
  - DEVELOPED, OPEN SPACE (DS)
  - UPLAND FOREST (UF)
  - SCRUB/SCRUB (SS)
  - MARSH (MA)
  - SHRUB SWAMP (SH)
  - FORESTED SWAMP (FS)
  - OPEN WATER (OW)

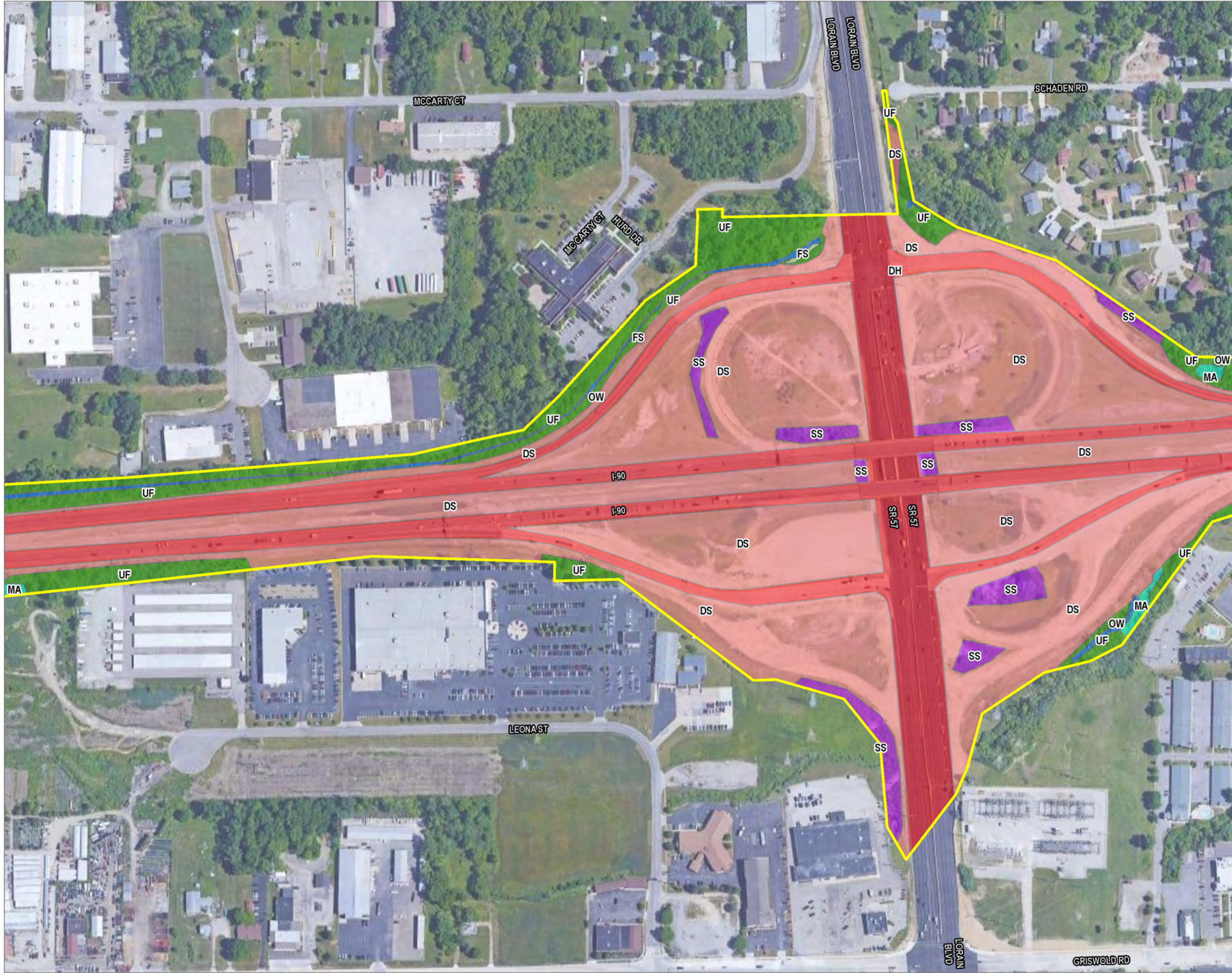
LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:			
<b>LAND COVER MAP</b>			
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 3 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023		
		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
- DEVELOPED, OPEN SPACE (DS)
- UPLAND FOREST (UF)
- SCRUB/SCRUB (SS)
- MARSH (MA)
- SHRUB SWAMP (SH)
- FORESTED SWAMP (FS)
- OPEN WATER (OW)

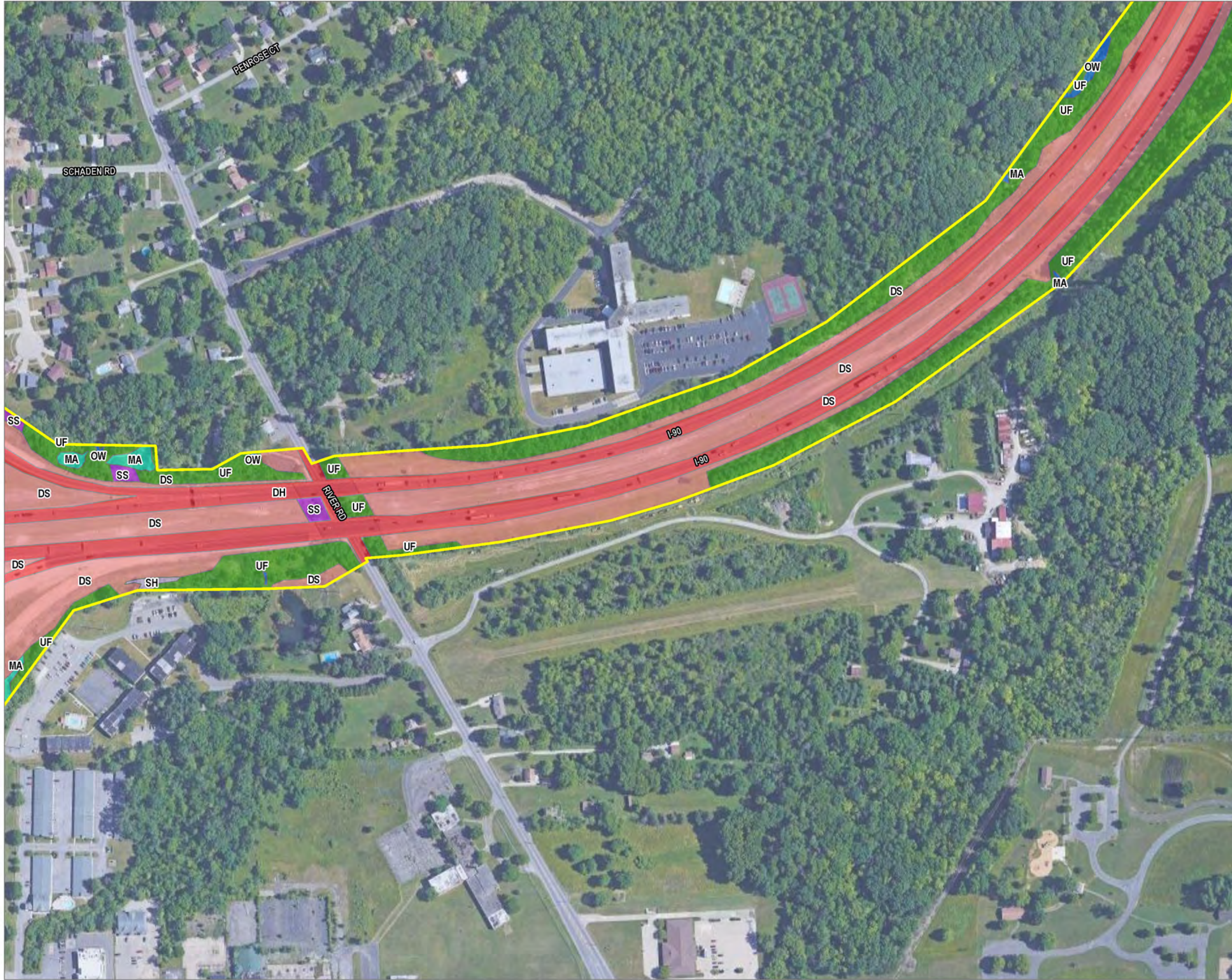
LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>LAND COVER MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5 (PAGE 4 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA**
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
  - DEVELOPED, OPEN SPACE (DS)
  - UPLAND FOREST (UF)
  - SCRUB/SCRUB (SS)
  - MARSH (MA)
  - SHRUB SWAMP (SH)
  - FORESTED SWAMP (FS)
  - OPEN WATER (OW)

LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:			
<b>LAND COVER MAP</b>			
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 5 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	 1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			



Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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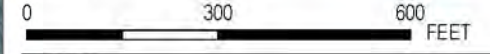
- PROJECT STUDY AREA**
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
  - DEVELOPED, OPEN SPACE (DS)
  - UPLAND FOREST (UF)
  - SCRUB/SCRUB (SS)
  - MARSH (MA)
  - SHRUB SWAMP (SH)
  - FORESTED SWAMP (FS)
  - OPEN WATER (OW)

LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC

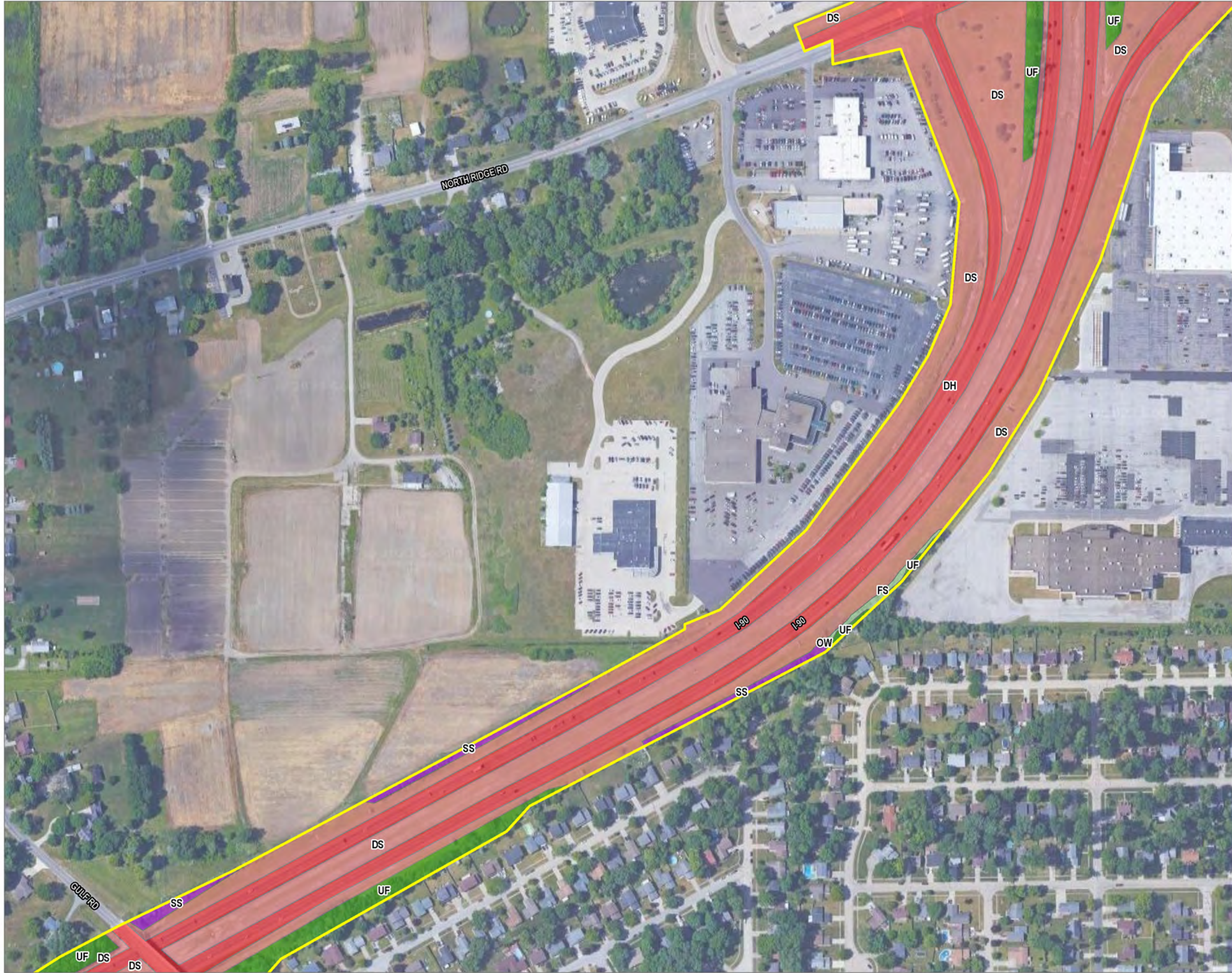


1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>LAND COVER MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 6 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	 1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA**
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
  - DEVELOPED, OPEN SPACE (DS)
  - UPLAND FOREST (UF)
  - SCRUB/SCRUB (SS)
  - MARSH (MA)
  - SHRUB SWAMP (SH)
  - FORESTED SWAMP (FS)
  - OPEN WATER (OW)

LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>LAND COVER MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 7 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	



Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
- DEVELOPED, OPEN SPACE (DS)
- UPLAND FOREST (UF)
- SCRUB/SCRUB (SS)
- MARSH (MA)
- SHRUB SWAMP (SH)
- FORESTED SWAMP (FS)
- OPEN WATER (OW)

LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>LAND COVER MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 8 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	<b>TRC</b> 1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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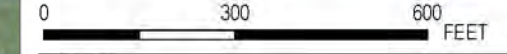
- PROJECT STUDY AREA
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
- DEVELOPED, OPEN SPACE (DS)
- UPLAND FOREST (UF)
- SCRUB/SCRUB (SS)
- MARSH (MA)
- SHRUB SWAMP (SH)
- FORESTED SWAMP (FS)
- OPEN WATER (OW)

LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>LAND COVER MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 9 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	<b>TRC</b> 1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

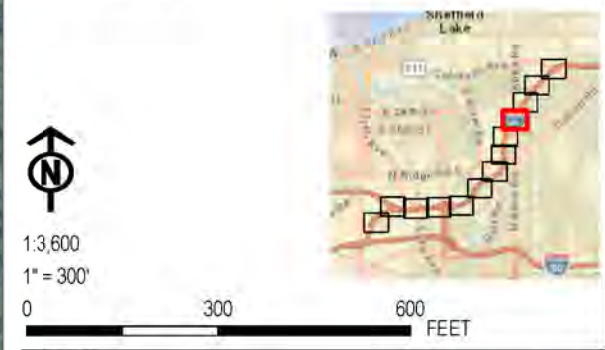
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- PROJECT STUDY AREA
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
- DEVELOPED, OPEN SPACE (DS)
- UPLAND FOREST (UF)
- SCRUB/SCRUB (SS)
- MARSH (MA)
- SHRUB SWAMP (SH)
- FORESTED SWAMP (FS)
- OPEN WATER (OW)

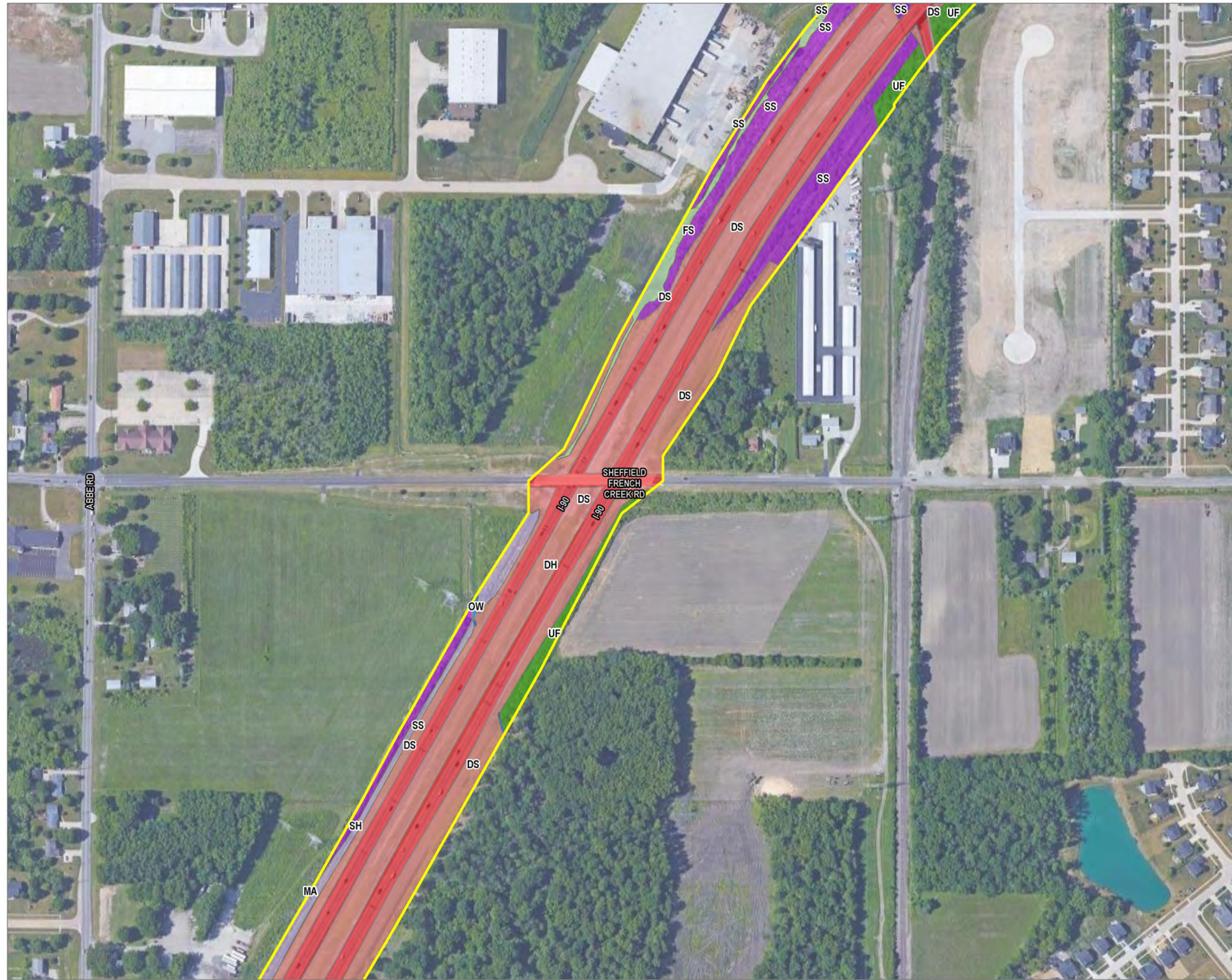
LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>LAND COVER MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 10 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	<b>TRC</b> 1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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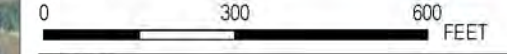
- PROJECT STUDY AREA**
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
  - DEVELOPED, OPEN SPACE (DS)
  - UPLAND FOREST (UF)
  - SCRUB/SCRUB (SS)
  - MARSH (MA)
  - SHRUB SWAMP (SH)
  - FORESTED SWAMP (FS)
  - OPEN WATER (OW)


LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC

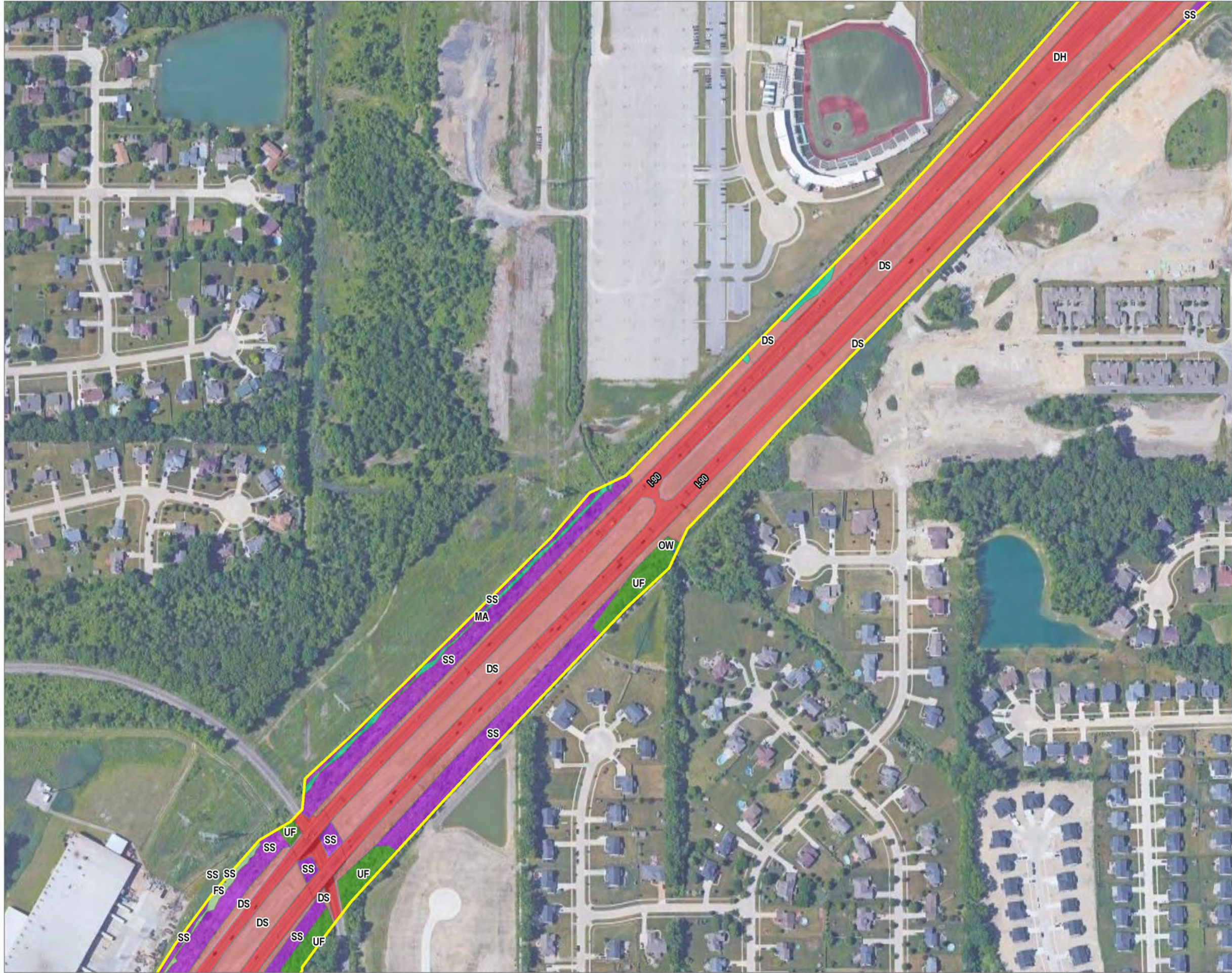


1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>LAND COVER MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 11 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	 1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA**
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
  - DEVELOPED, OPEN SPACE (DS)
  - UPLAND FOREST (UF)
  - SCRUB/SCRUB (SS)
  - MARSH (MA)
  - SHRUB SWAMP (SH)
  - FORESTED SWAMP (FS)
  - OPEN WATER (OW)

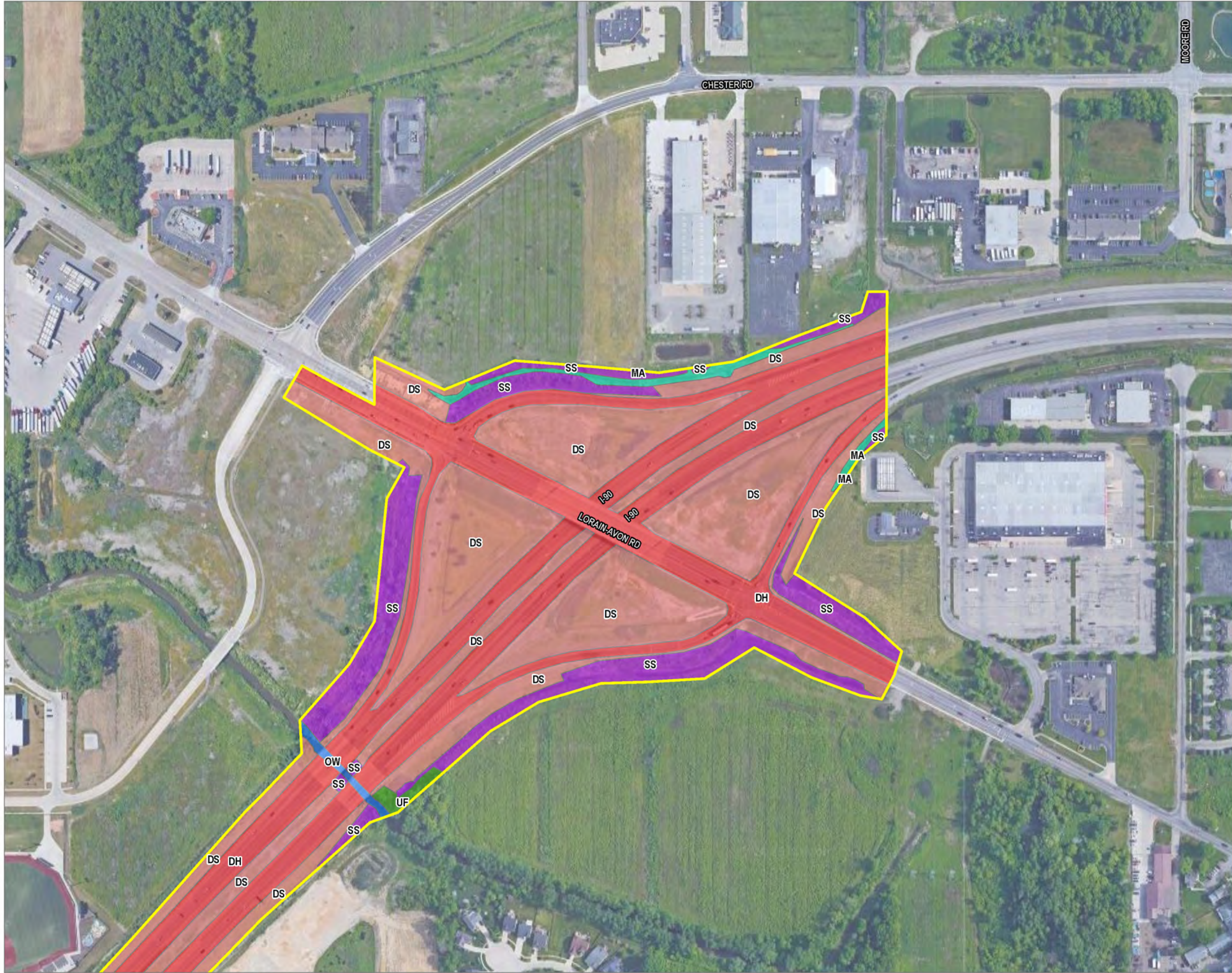
LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>LAND COVER MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 12 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	 1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA**
- LAND COVER**
- DEVELOPED, HIGH INTENSITY (DH)
  - DEVELOPED, OPEN SPACE (DS)
  - UPLAND FOREST (UF)
  - SCRUB/SCRUB (SS)
  - MARSH (MA)
  - SHRUB SWAMP (SH)
  - FORESTED SWAMP (FS)
  - OPEN WATER (OW)

LAND COVER	WITHIN PROJECT STUDY AREA (ACRES)	WITHIN PROJECT STUDY AREA (PERCENT)
DEVELOPED, HIGH INTENSITY (DH)	137.38	32.6
DEVELOPED, OPEN SPACE (DS)	201.21	47.7
UPLAND FOREST (UF)	49.11	11.7
SCRUB/SCRUB (SS)	19.49	4.6
MARSH (MA)	6.06	1.4
SHRUB SWAMP (SH)	3.23	0.8
FORESTED SWAMP (FS)	3.18	0.8
OPEN WATER (OW)	1.76	0.4

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>LAND COVER MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 5</b> (PAGE 13 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	 1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:		ESR.aprx	



Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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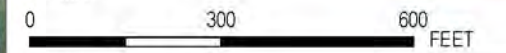


- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC

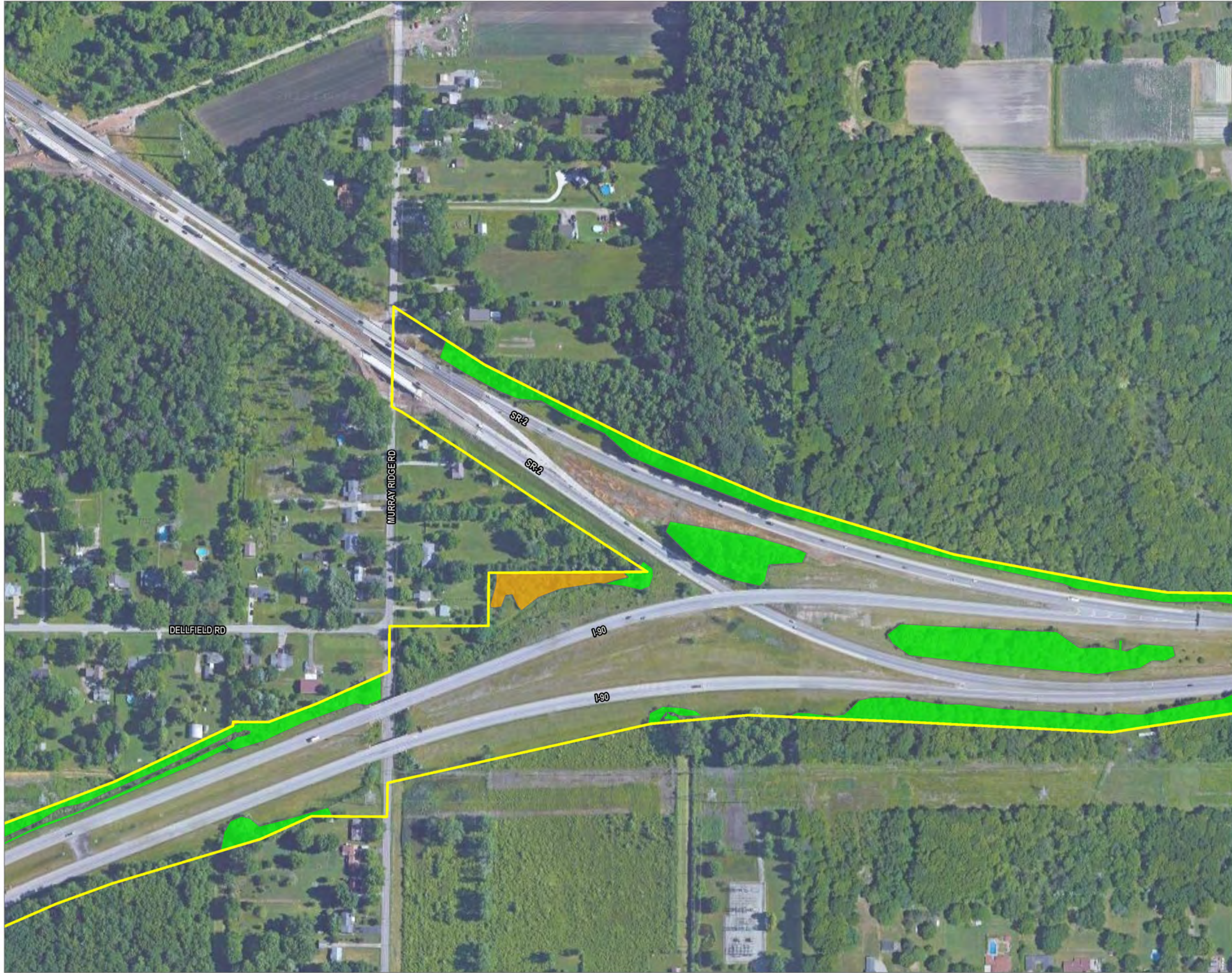


1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE: <b>SUITABLE WOODED HABITAT MAP</b>			
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6</b> (PAGE 1 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			ESR.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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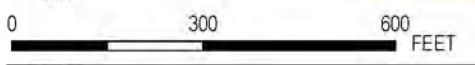


- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC

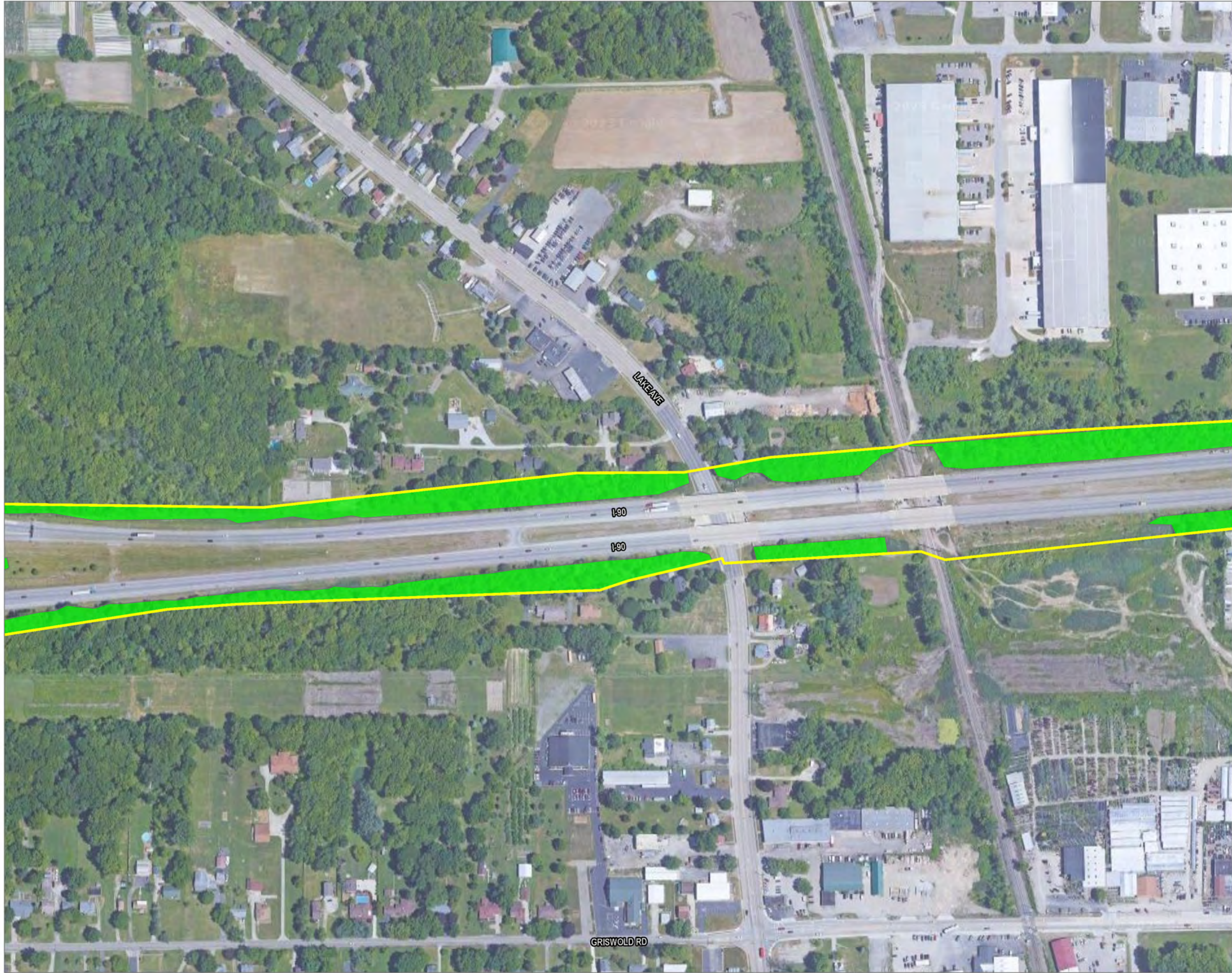


1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6 (PAGE 2 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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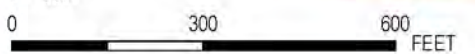


- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC

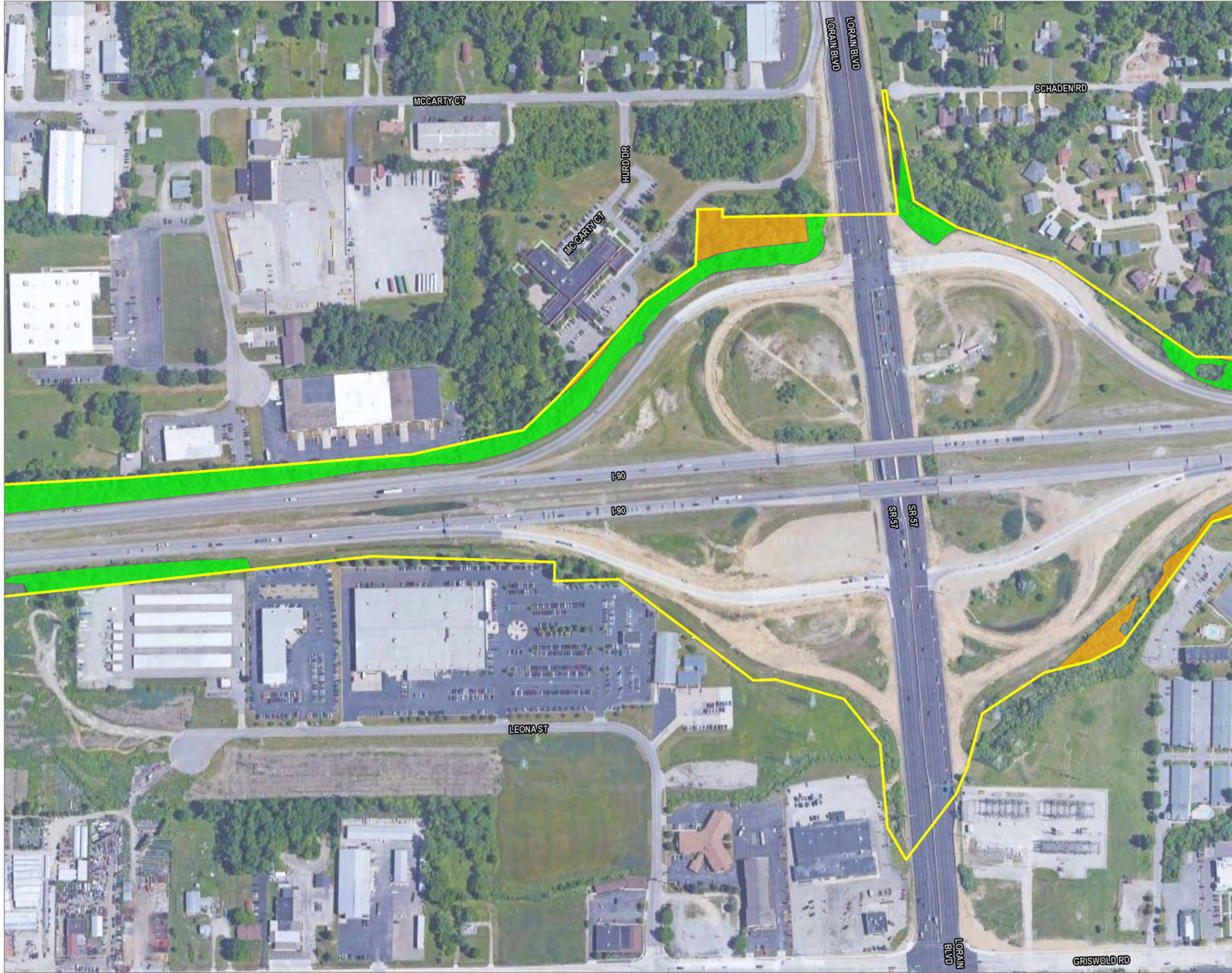


1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6 (PAGE 3 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
 Drawn By: MOPEL on 10/06/2023, 11:15:24 AM. File Path: T:\PROJECTS\Ohio\_DOT\107714\APP\IESR.aprx. Layout Name: Fg06\_SWH

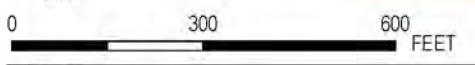


- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC






1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6 (PAGE 4 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
- Saved By: MOPEL on 10/06/2023, 11:15:24 AM. File Path: T:\PROJECTS\Ohio DOT\228418\_LOR-90-1076-APP\ESR.aprx. Layout Name: Fg06\_SWH

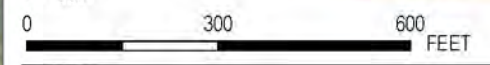



-  PROJECT STUDY AREA
-  SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
-  SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS  
DATA SOURCES: TRC



1:3,600  
1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6</b> (PAGE 5 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023		
		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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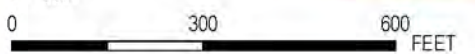


- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC

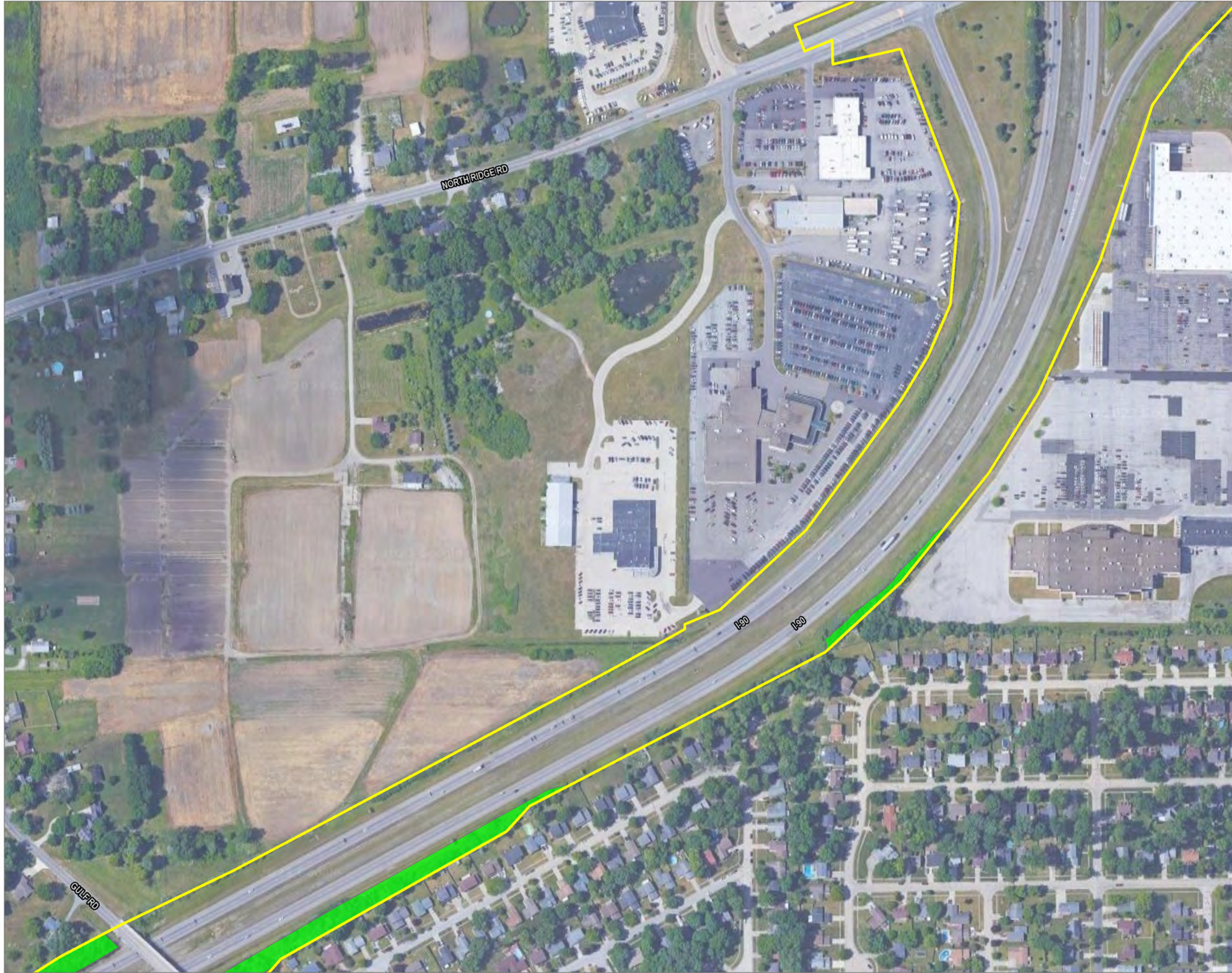


1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6 (PAGE 6 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



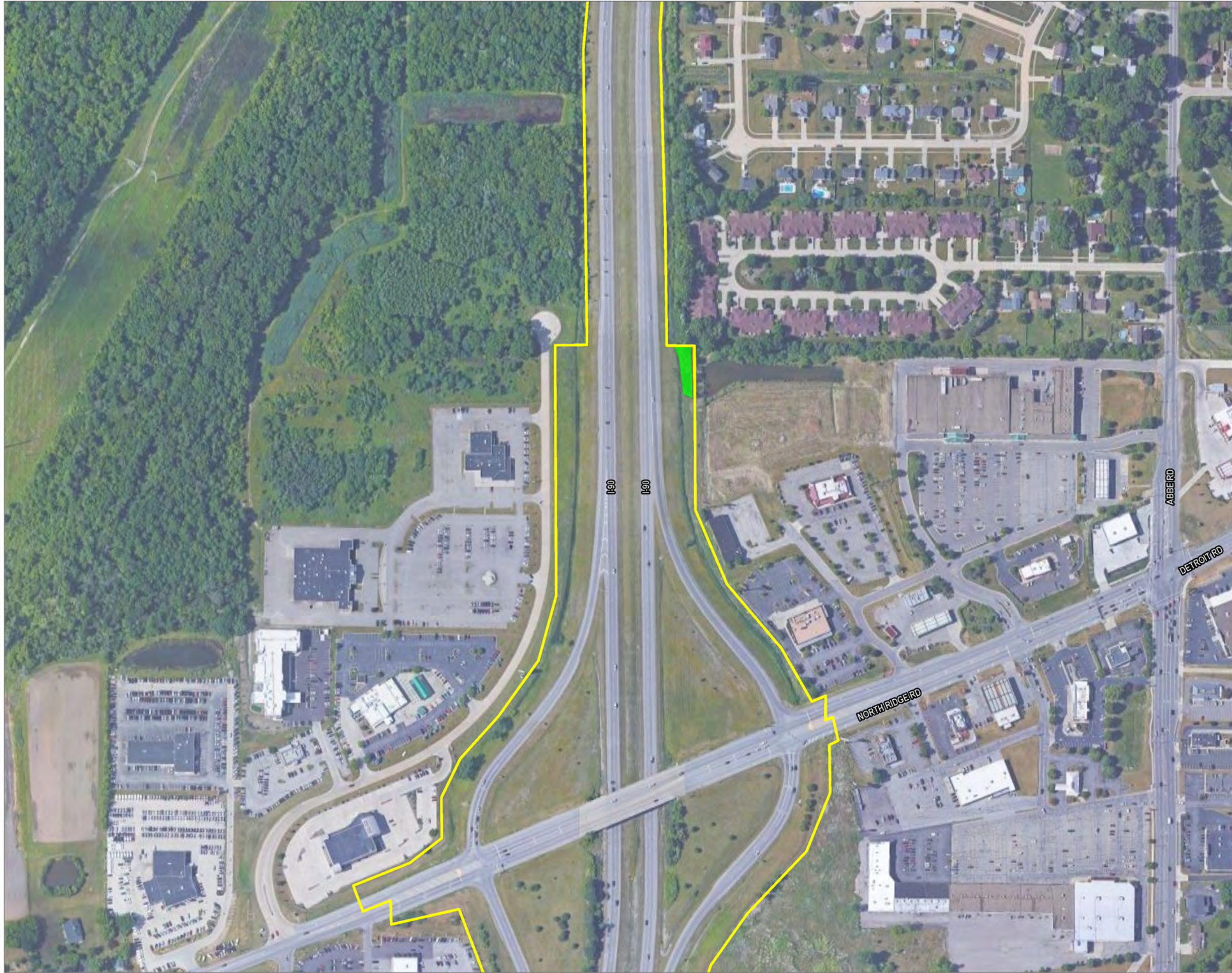
1:3,600  
 1" = 300'

0 300 600 FEET



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6 (PAGE 7 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



1:3,600  
 1" = 300'  
 0 300 600 FEET



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6 (PAGE 8 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			



Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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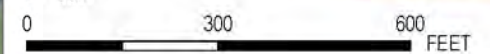


- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC

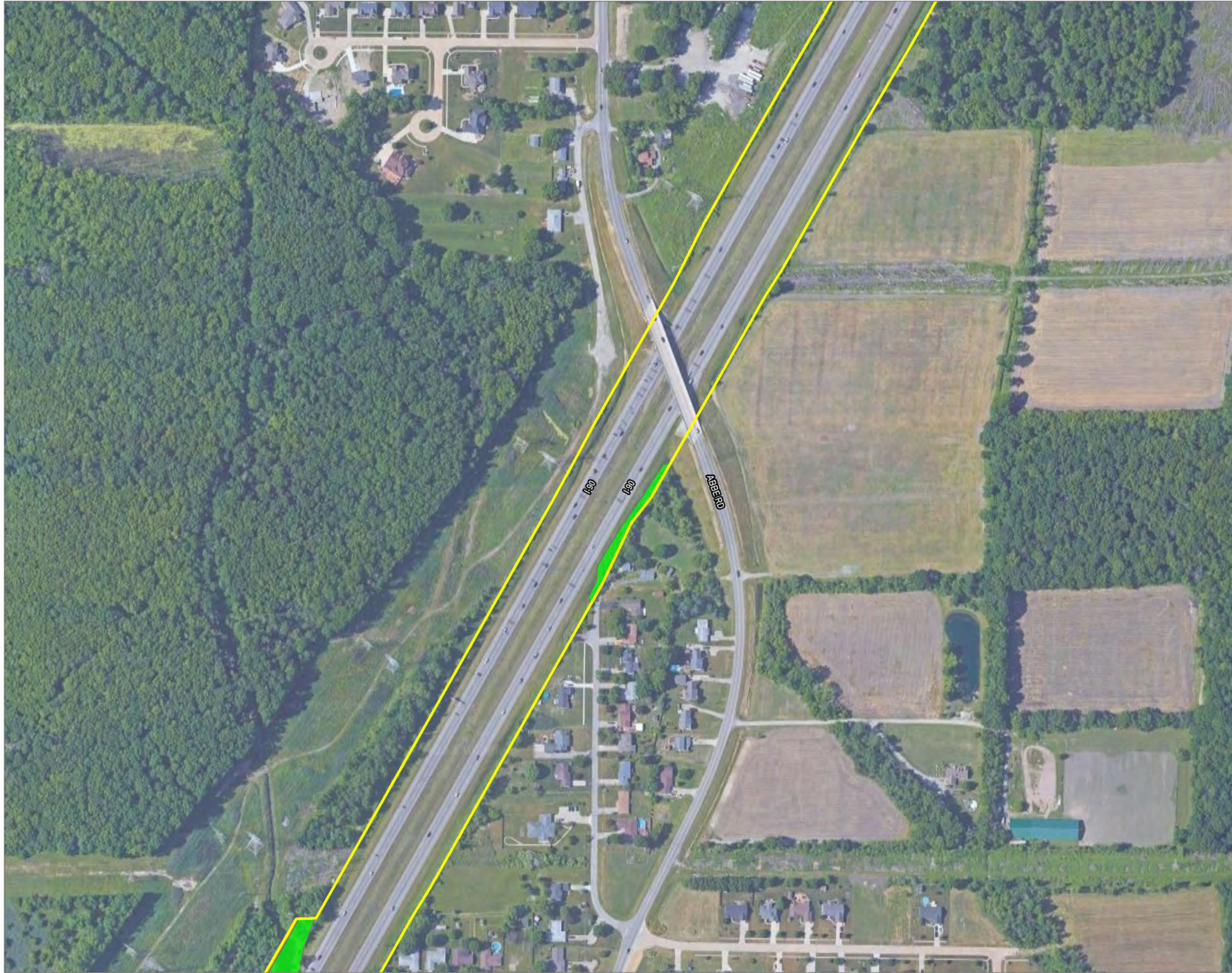


1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6 (PAGE 9 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023		
<b>TRC</b>		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			ESR.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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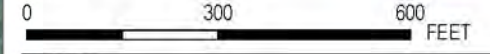


- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS,  
 DATA SOURCES: TRC



1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6 (PAGE 10 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023		
		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

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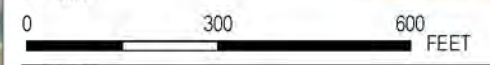


- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6</b> (PAGE 11 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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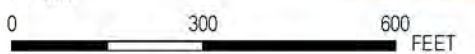


- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC

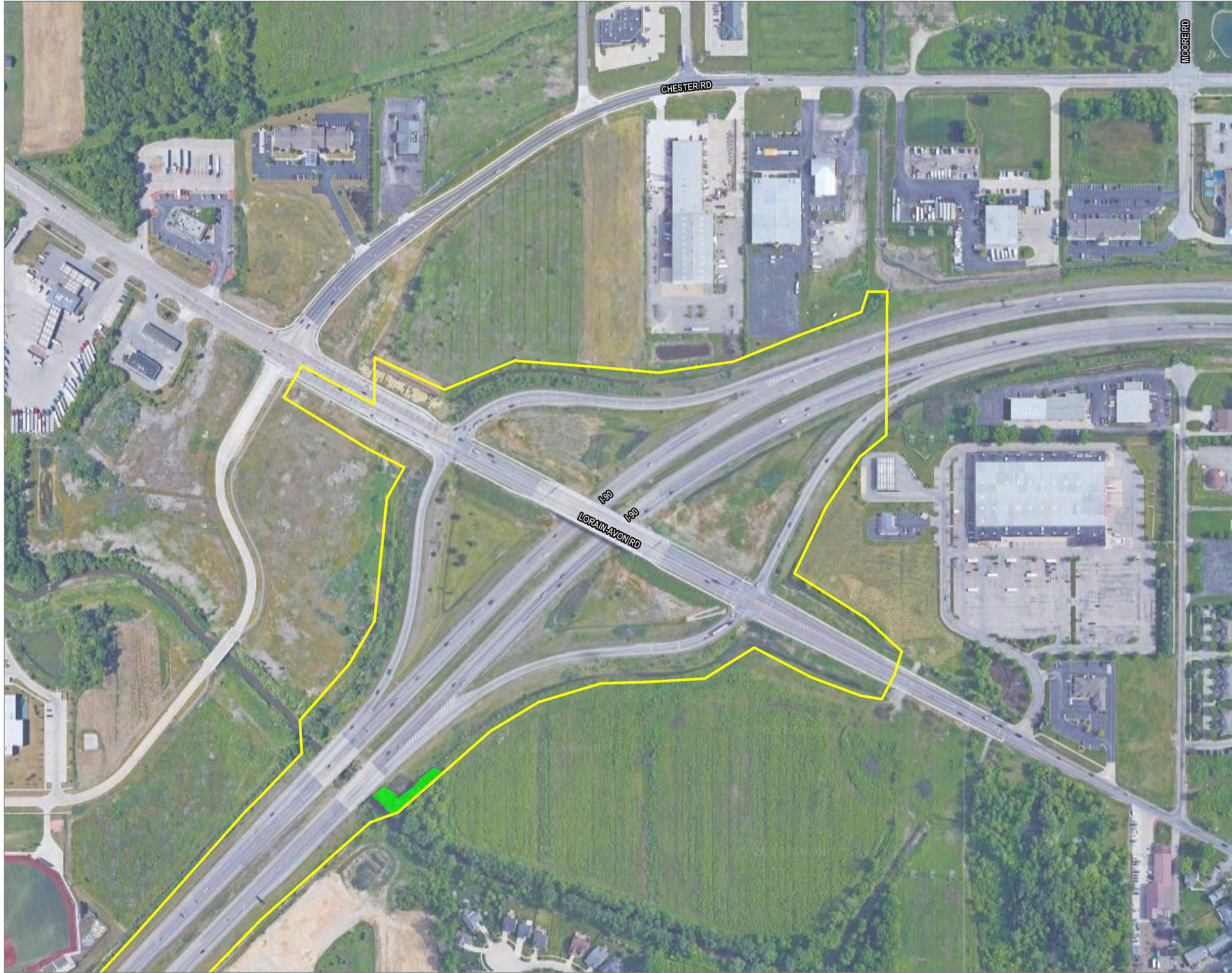


1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6</b> (PAGE 12 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023		
<b>TRC</b>		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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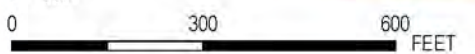


- PROJECT STUDY AREA
- SUITABLE WOODED HABITAT WITHIN 100' EDGE OF PAVEMENT (45.14 ACRE)
- SUITABLE WOODED HABITAT OUTSIDE 100' EDGE OF PAVEMENT (6.09 ACRE)

BASE MAP: GOOGLE MAPS.  
 DATA SOURCES: TRC



1:3,600  
 1" = 300'



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>SUITABLE WOODED HABITAT MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 6</b> (PAGE 13 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

## **Appendix 2**

### **Photo Log**

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- PHOTO LOCATION

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



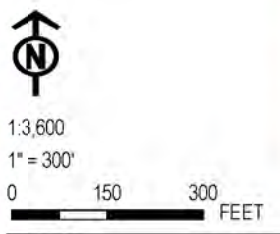
PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7</b> (PAGE 1 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023		
<b>TRC</b>		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
 - Saved By: MOPEL on 10/06/2023 10:27:39 AM; File Path: T:\L-PROJECTS\Ohio DOT\228418\_LOR-90-1076-APP\IESR.aprx; Layout Name: Fig07\_Photos



- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- 📍 PHOTO LOCATION

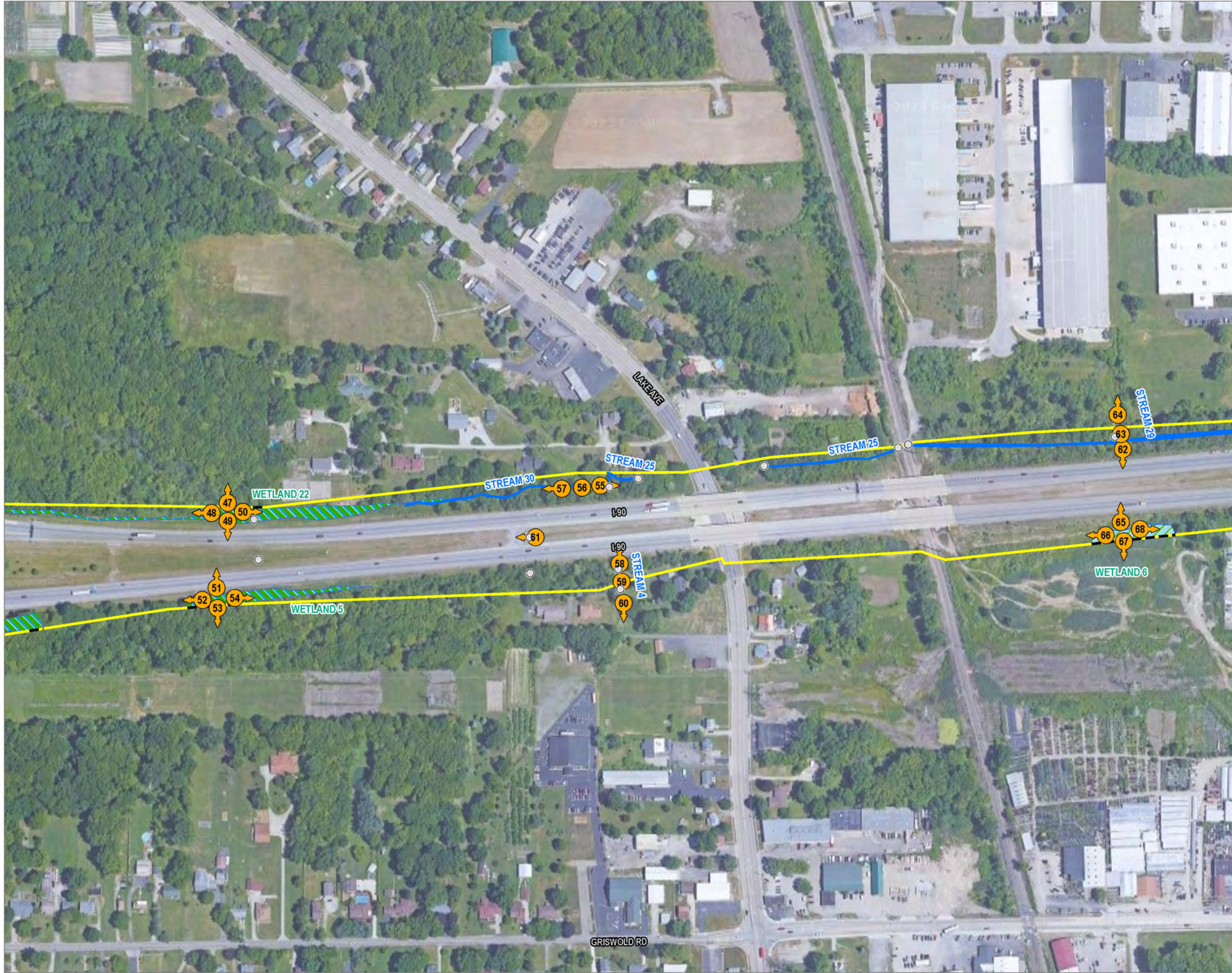
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 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7 (PAGE 2 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		



Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- ↗ PHOTO LOCATION

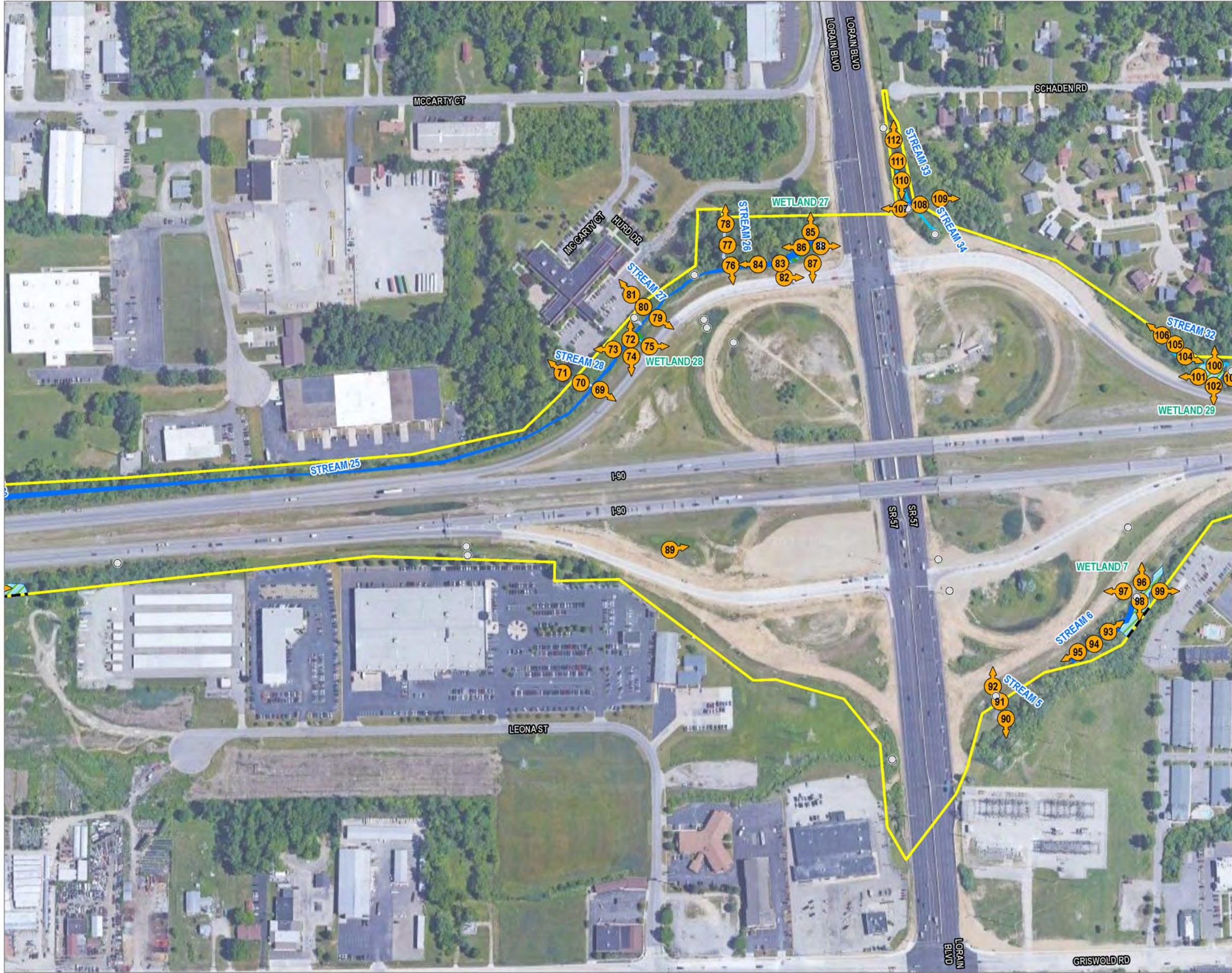
BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



1:3,600  
 1" = 300'  
 0 150 300 FEET

PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7 (PAGE 3 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	<span style="float: right; font-size: 0.8em;">1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072</span>	
FILE:			ESR.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
 Drawn By: MOPEL on 10/06/2023 10:27:39 AM; File Path: T:\L-PROJECTS\Ohio DOT\1028418\_LOR-90-1076\APP\IESR.aprx; Layout Name: Fig07\_Photos



- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
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- PEM WETLAND (EMERGENT)
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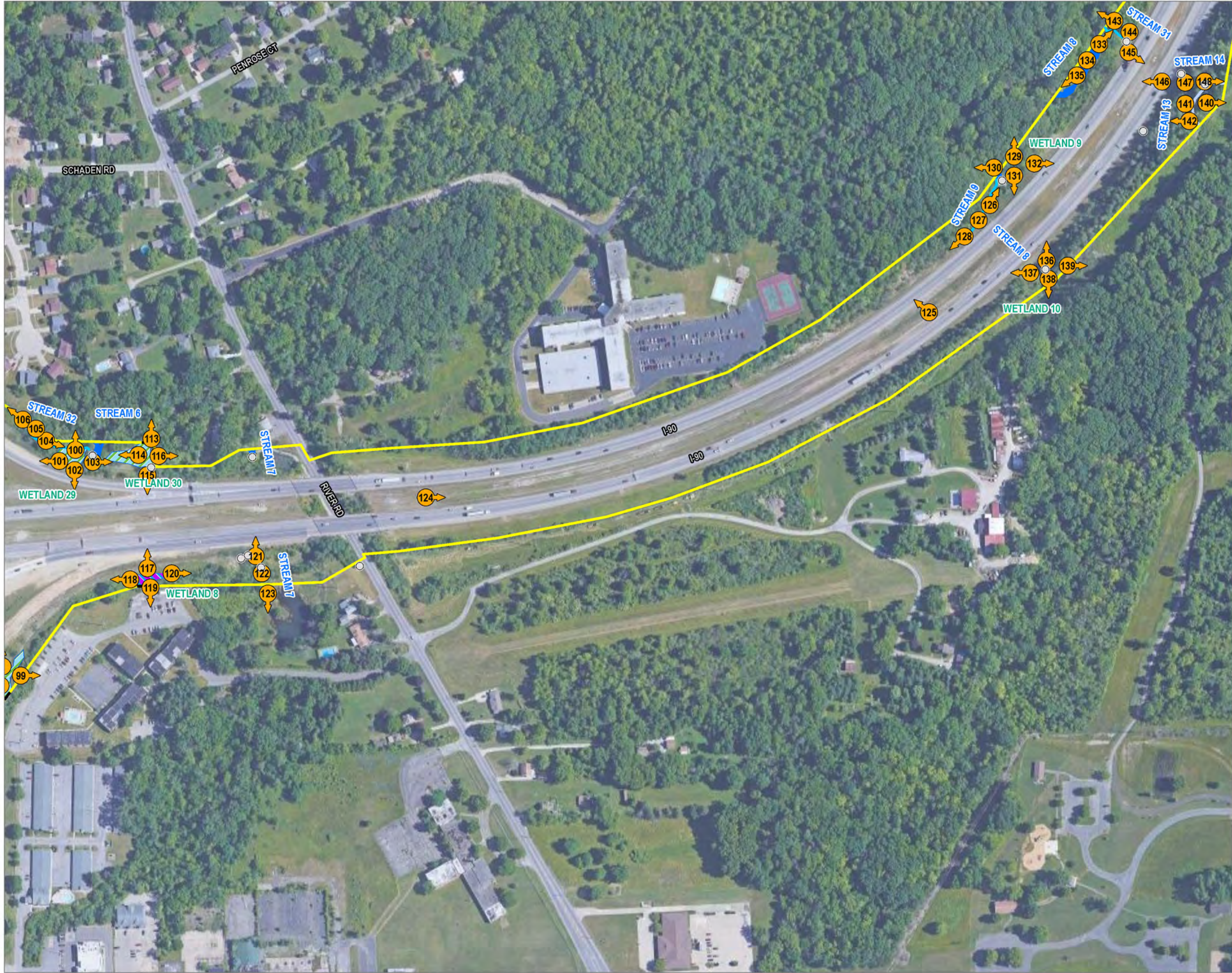
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 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



1:3,600  
 1" = 300'  
 0 150 300 FEET

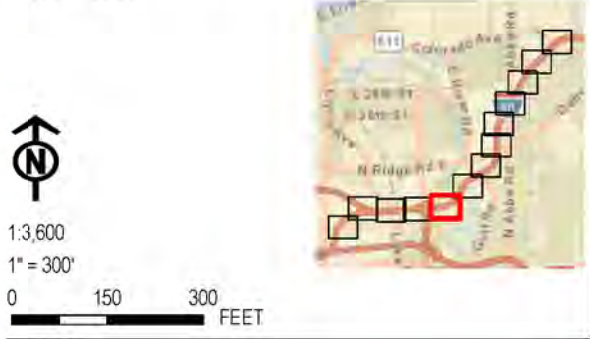
PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7 (PAGE 4 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			ESR.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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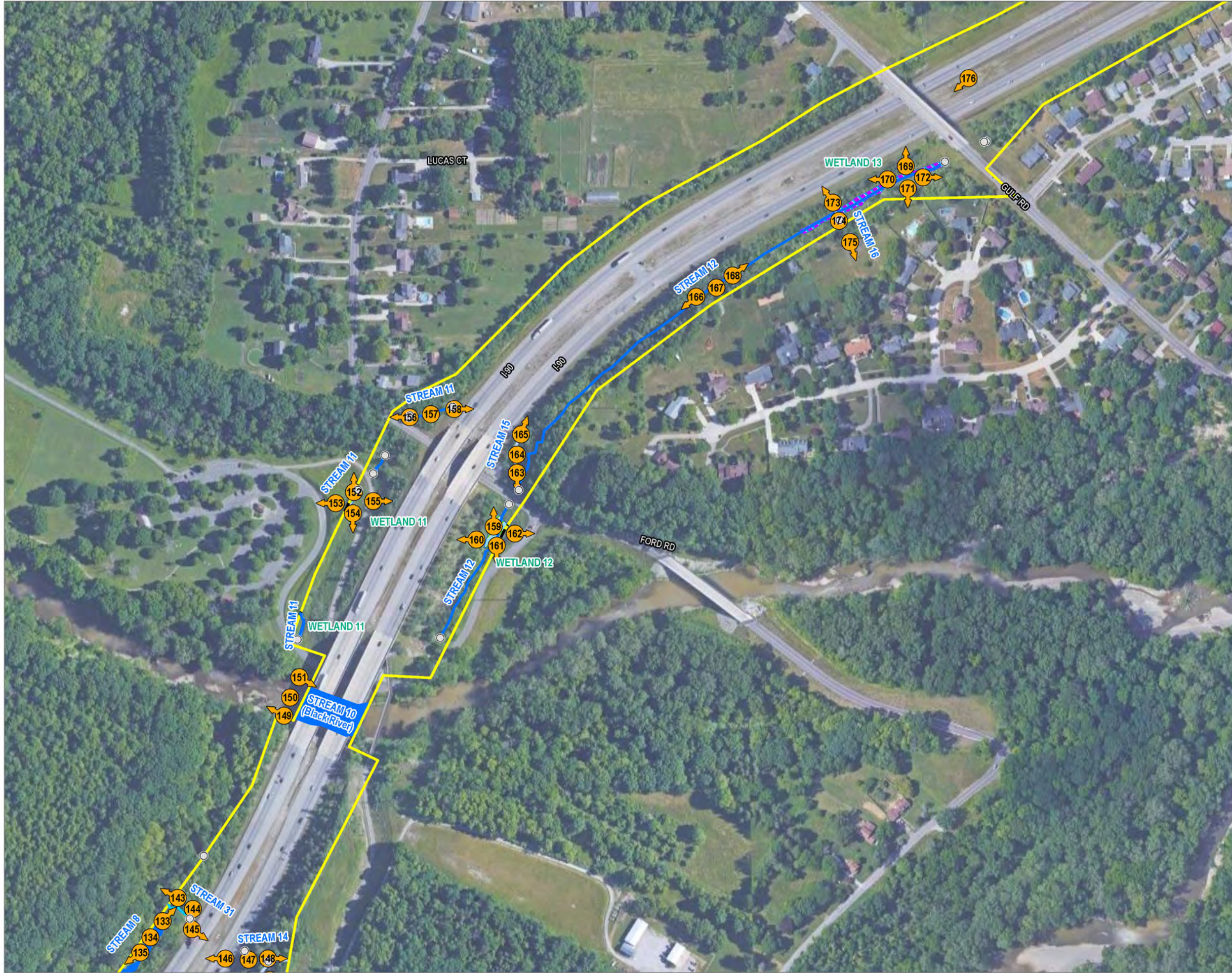
- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- PHOTO LOCATION

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7</b> (PAGE 5 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023		
<b>TRC</b>		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
 - Saved By: MOPEL on 10/06/2023, 10:27:39 AM; File Path: T:\L-PROJECTS\Ohio DOT\228418\_LOR-90-1076-APP\IESR.aprx; Layout Name: Fig07\_Photos



- PROJECT STUDY AREA
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- PEM WETLAND (EMERGENT)
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- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- PHOTO LOCATION

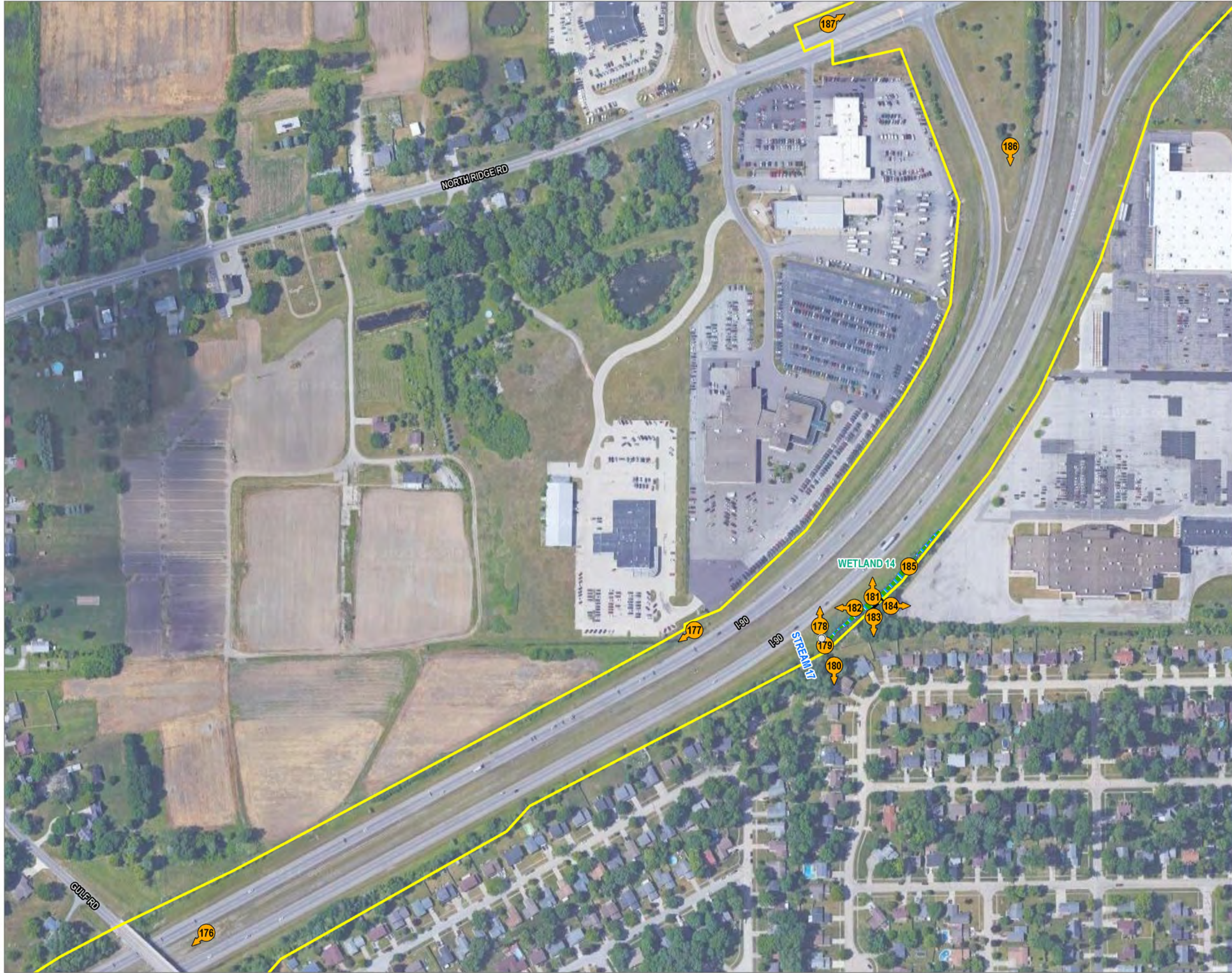
BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



1:3,600  
 1" = 300'  
 0 150 300 FEET

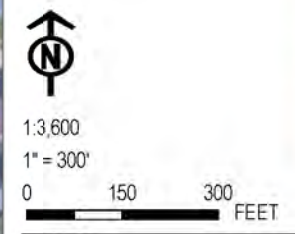
PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7</b> (PAGE 6 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	<span style="float: right; font-size: small;">1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072</span>	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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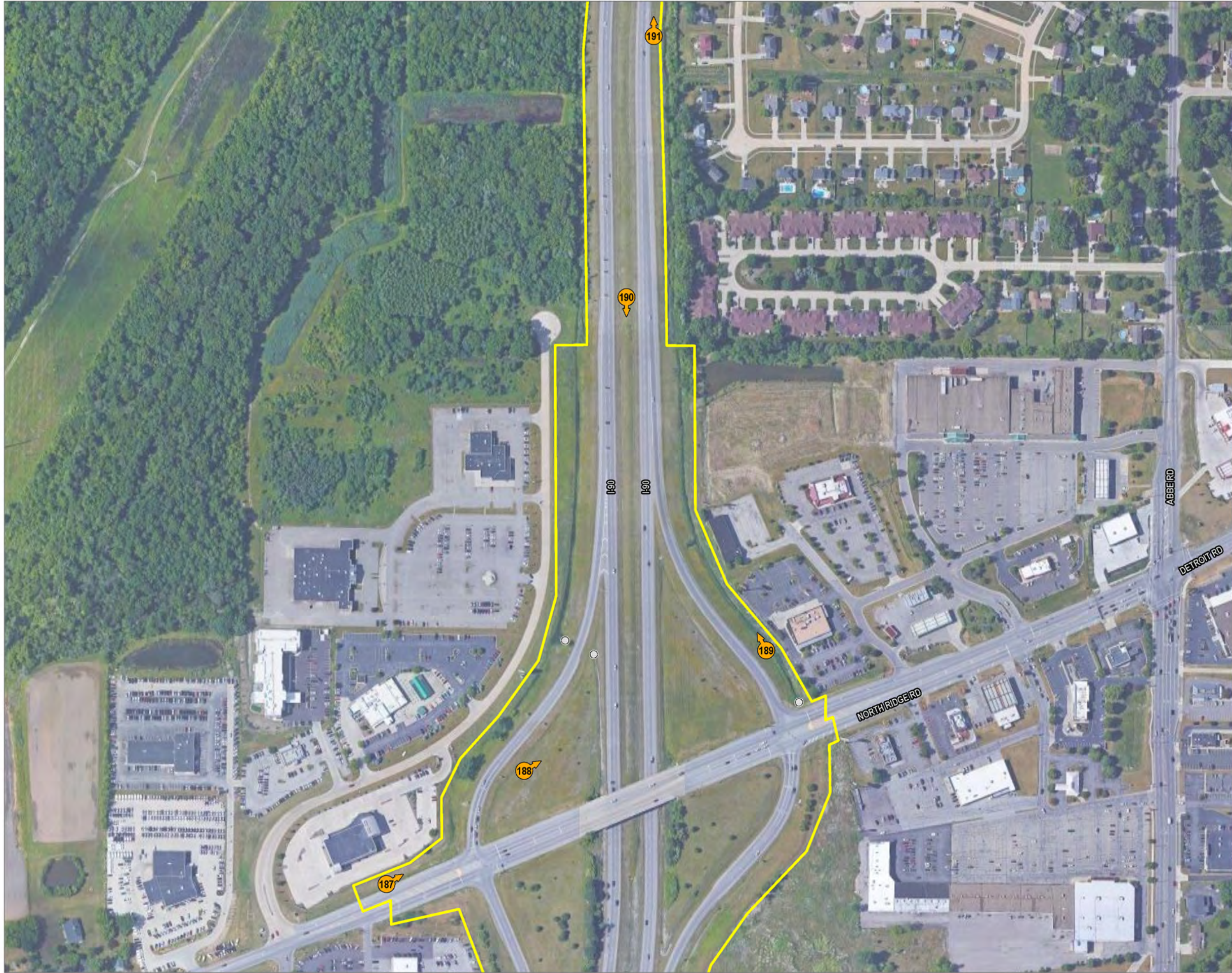
- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- PHOTO LOCATION

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



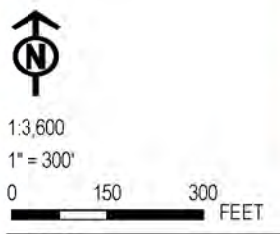
PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7 (PAGE 7 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			ESR.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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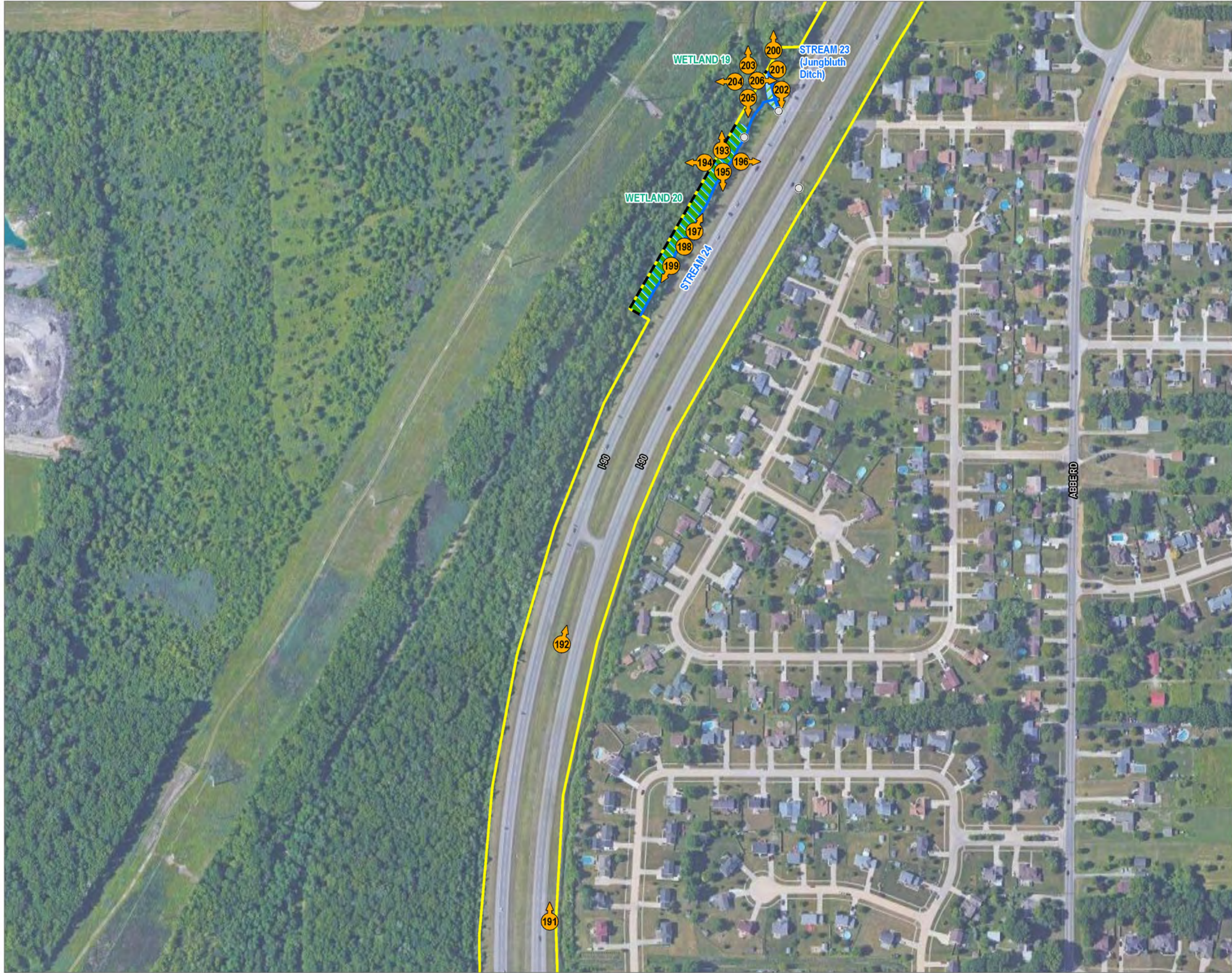
- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- 187 PHOTO LOCATION

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7</b> (PAGE 8 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			ESR.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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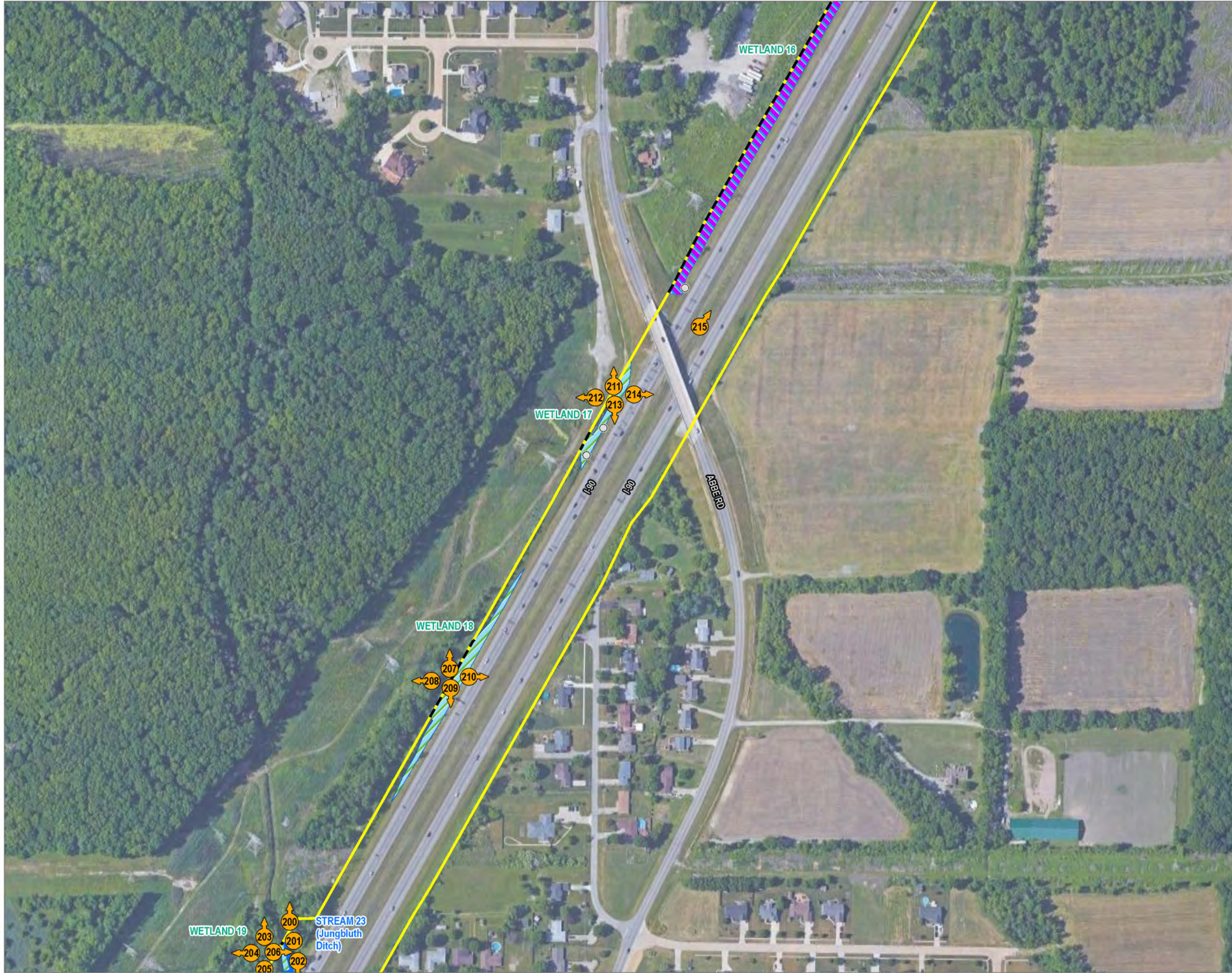
- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- PHOTO LOCATION

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



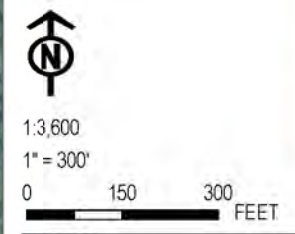
PROJECT:		<b>LOR-90-10.76 (PID 107714)</b> <b>LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7</b> (PAGE 9 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	ESR.aprx		

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
 - Saved By: MOPEL on 10/06/2023, 10:27:39 AM; File Path: T:\L-PROJECTS\Ohio DOT\528418\_LOR-90-1076-APP\IESR.aprx; Layout Name: Fig07\_Photos



- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- 📍 PHOTO LOCATION

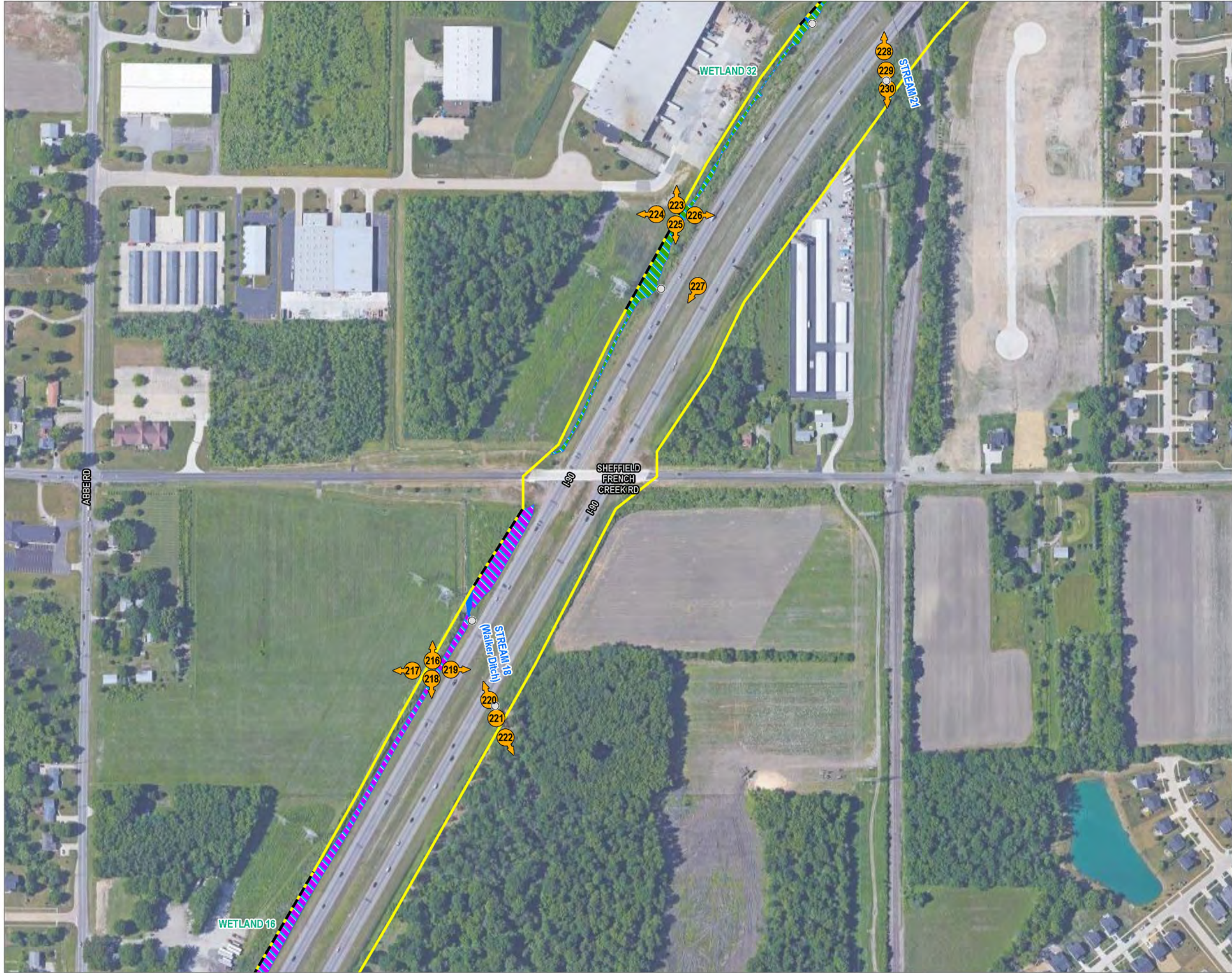
BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7</b> (PAGE 10 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			

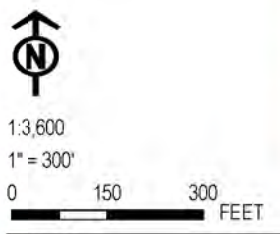


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- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- PHOTO LOCATION

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7</b> (PAGE 11 OF 13)	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023		
<b>TRC</b>		1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			ESR.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
 - Saved By: MOPEL on 10/06/2023 10:27:39 AM; File Path: T:\L-PROJECTS\Ohio DOT\228418\_LOR-90-1076-APP\IESR.aprx; Layout Name: Fig07\_Photos



- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- PHOTO LOCATION

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.

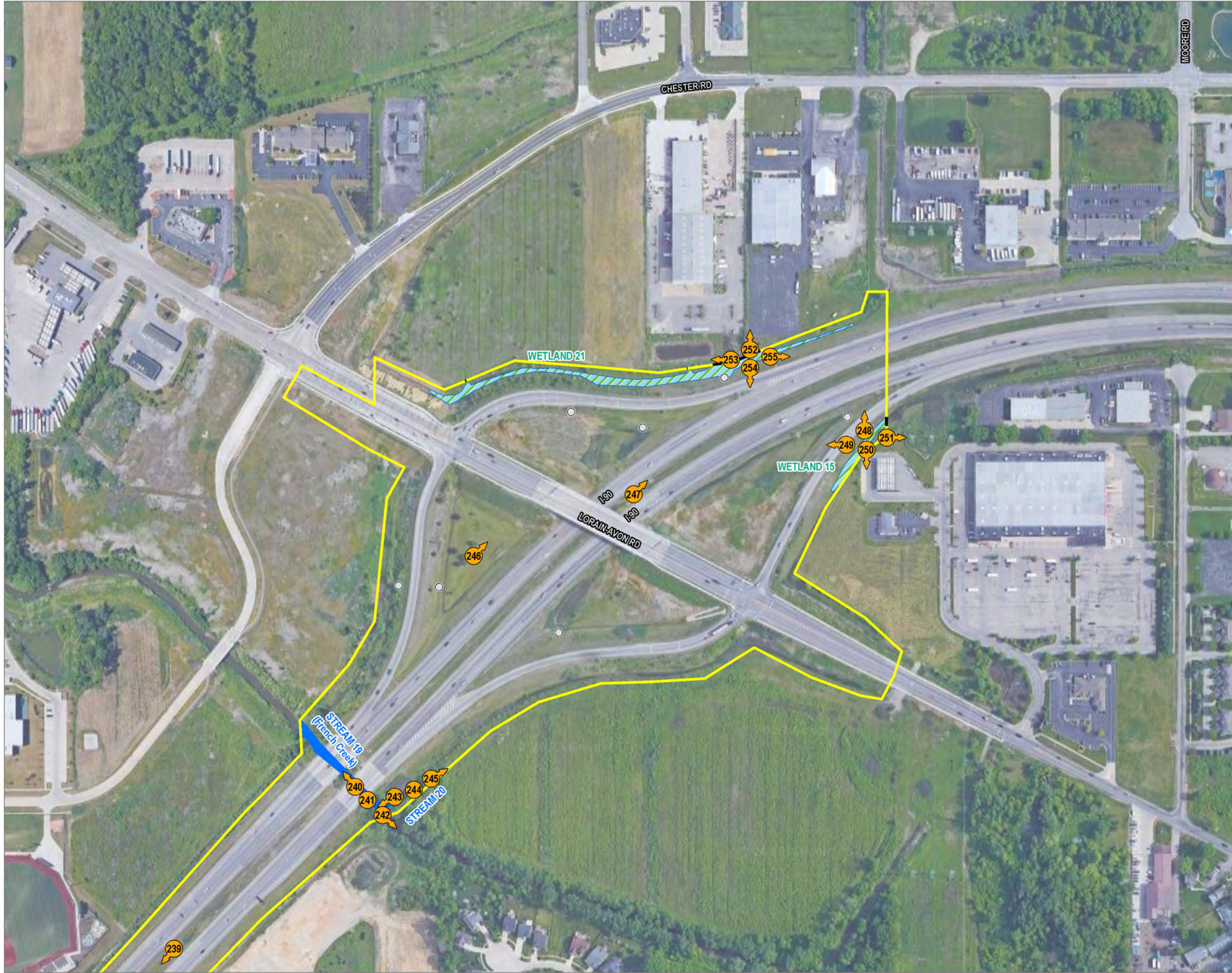


1:3,600  
 1" = 300'  
 0 150 300 FEET



PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7 (PAGE 12 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			ESR.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0  
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- PROJECT STUDY AREA
- CULVERT
- PERENNIAL STREAM
- INTERMITTENT STREAM
- EPHEMERAL STREAM
- PEM WETLAND (EMERGENT)
- PFO WETLAND (FORESTED)
- PSS WETLAND (SCRUB SHRUB)
- WETLAND CONTINUES
- 📍 PHOTO LOCATION

BASE MAP: GOOGLE MAPS  
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JULY 31 - AUGUST 15, 2023.



1:3,600  
 1" = 300'  
 0 150 300 FEET

PROJECT:		<b>LOR-90-10.76 (PID 107714) LORAIN COUNTY, OHIO</b>	
TITLE:		<b>PHOTO LOCATION MAP</b>	
DRAWN BY:	M. OPEL	PROJ. NO.:	528418
CHECKED BY:	E. GIVEN	<b>FIGURE 7 (PAGE 13 OF 13)</b>	
APPROVED BY:	S. SCHIMMOELLER		
DATE:	OCTOBER 2023	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:			ESR.aprx

<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 1.</b>	
<b>Date:</b> 07/31/2023	
<b>Description:</b>  View of typical mowed median (developed open space), looking south towards Ohio Turnpike Toll booths.	

<b>Photo No. 2.</b>	
<b>Date:</b> 07/31/2023	
<b>Description:</b>  Wetland 1 (PEM), view looking north.	

<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 3.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 1 (PEM), view looking west.



<b>Photo No. 4.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 1 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 5.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 1 (PEM), view looing south.



<b>Photo No. 6.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 25 (PSS), view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 7.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 25 (PSS), view looking west.



<b>Photo No. 8.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 25 (PSS), view looking south.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 9.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 25 (PSS), view looking east.



<b>Photo No. 10.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  View looking north/northeast within maintained median (developed open space), typical of project area.





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 11.**

**Date:**  
07/31/2023

**Description:**  
Stream 1 Martin Run  
(perennial), view  
looking upstream  
(south).



**Photo No. 12.**

**Date:**  
07/31/2023

**Description:**  
Stream 1 Martin Run  
(perennial), view  
looking down at  
observed substrate.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 13.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Stream 1 Martin Run (perennial), view looking downstream (north).



<b>Photo No. 14.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 2 (PEM), view looking north



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.:</b> 528418.0000.0000
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<b>Photo No. 15.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 2 (PEM), view looking north.



<b>Photo No. 16.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 2 (PEM), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 17.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 2 (PEM), view looking south.



<b>Photo No. 18.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 3 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 19.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 3 (PEM), view looking north.



<b>Photo No. 20.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 3 (PEM), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 21.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 3 (PEM), view looking south.



<b>Photo No. 22.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 24 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 23.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 24 (PEM), view looking north.



<b>Photo No. 24.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 24 (PEM), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.:</b> 528418.0000.0000
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**Photo No. 25.**

**Date:**  
07/31/2023

**Description:**  
Wetland 24 (PEM),  
view looking south.



**Photo No. 26.**

**Date:**  
07/31/2023

**Description:**  
Wetland 23 (PSS),  
view looking east.





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 27.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 23 (PSS), view looking north.



<b>Photo No. 28.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 23 (PSS), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 29.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Wetland 23 (PSS), view looking south.



<b>Photo No. 30.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  View looking west, within typical developed open space (mowed median) within project limits.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<p><b>Photo No. 31.</b></p> <p><b>Date:</b> 07/31/2023</p> <p><b>Description:</b></p> <p>Typical PRT observed within upland young woods community. PRT was dead (<i>Fraxinus</i>) with exfoliating bark.</p>	
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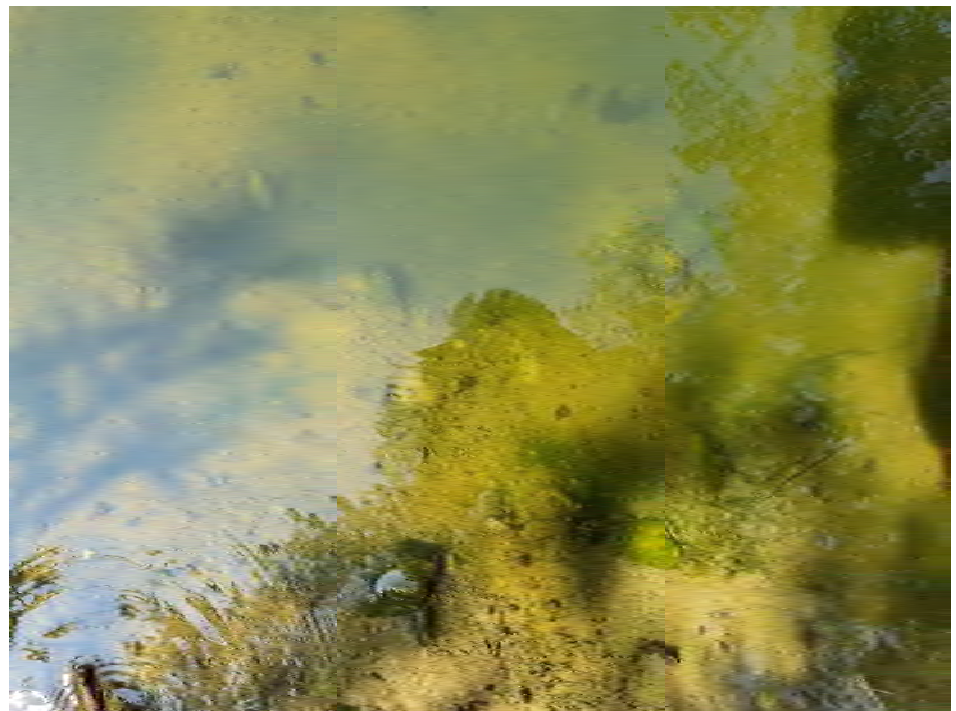
<p><b>Photo No. 32.</b></p> <p><b>Date:</b> 07/31/2023</p> <p><b>Description:</b></p> <p>Typical PRT observed within upland young woods community. PRT was dead (<i>Fraxinus</i>) with exfoliating bark.</p>	
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<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 33.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Stream 2 (perennial), view looking downstream (northwest).



<b>Photo No. 34.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Stream 2 (perennial), view looking down at substrate observed.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 35.</b>
<b>Date:</b> 07/31/2023
<b>Description:</b>  Stream 2 (perennial), view looking upstream (southeast).



<b>Photo No. 36.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 4 (PFO), view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 37.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 4 (PFO), view looking west.



<b>Photo No. 38.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 4 (PFO), view looking south.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 39.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 4 (PFO), view looking east.



<b>Photo No. 40.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Stream 3 (perennial), view looking downstream (north).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 41.**

**Date:**  
08/01/2023

**Description:**  
Stream 3 (perennial),  
view looking down at  
substrate observed.



**Photo No. 42.**

**Date:**  
08/01/2023

**Description:**  
Stream 3 (perennial),  
view looking  
upstream (south).





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 43.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 26 (PEM), view looking north.



<b>Photo No. 44.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 26 (PEM), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 45.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 26 (PEM), view looking south.



<b>Photo No. 46.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 26 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 47.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 22 (PFO), view looking north.



<b>Photo No. 48.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 22 (PFO), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 49.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 22 (PFO), view looking south.



<b>Photo No. 50.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 22 (PFO), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 51.**

**Date:**  
 08/01/2023

**Description:**  
 Wetland 5 (PFO),  
 view looking north.



**Photo No. 52.**

**Date:**  
 08/01/2023

**Description:**  
 Wetland 5 (PFO),  
 view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 53.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 5 (PFO), view looking south.



<b>Photo No. 54.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  Wetland 5 (PFO), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 55.</b>
<b>Date:</b> 08/07/2023
<b>Description:</b>  Stream 30 (perennial), view looking downstream (east).



<b>Photo No. 56.</b>
<b>Date:</b> 08/07/2023
<b>Description:</b>  Stream 30 (perennial), view looking down at substrate observed.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 57.**

**Date:**  
08/07/2023

**Description:**  
Stream 30  
(perennial), view  
looking upstream  
(west).



**Photo No. 58.**

**Date:**  
08/01/2023

**Description:**  
Stream 4 (perennial),  
view looking  
downstream (north).





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 59.**

**Date:**  
08/01/2023

**Description:**  
Stream 4 (perennial),  
view looking down at  
substrate observed.



**Photo No. 60.**

**Date:**  
08/01/2023

**Description:**  
Stream 4 (perennial),  
view looking  
upstream (south).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 61.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  View looking west, within typical developed open space (mowed median) within project limits.



<b>Photo No. 62.</b>
<b>Date:</b> 08/04/2023
<b>Description:</b>  Stream 29 (intermittent), view looking downstream (south).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 63.</b>
<b>Date:</b> 08/04/2023
<b>Description:</b>  Stream 29 (intermittent), view looking down at substrate observed.



<b>Photo No. 64.</b>
<b>Date:</b> 08/04/2023
<b>Description:</b>  Stream 29 (intermittent), view looking upstream (north).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 65.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Wetland 6 (PEM), view looking north.



<b>Photo No. 66.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Wetland 6 (PEM), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 67.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Wetland 6 (PEM), view looking south.



<b>Photo No. 68.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Wetland 6 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 69.**

**Date:**  
08/04/2023

**Description:**  
Stream 28  
(ephemeral), view  
looking downstream  
(east).



**Photo No. 70.**

**Date:**  
08/04/2023

**Description:**  
Stream 28  
(ephemeral), view  
looking down at  
observed substrate.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 71.**

**Date:**  
08/04/2023

**Description:**  
Stream 28  
(ephemeral), view  
looking upstream  
(west).



**Photo No. 72.**

**Date:**  
08/04/2023

**Description:**  
Wetland 28 (PFO),  
view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 73.</b>
<b>Date:</b> 08/04/2023
<b>Description:</b>  Wetland 28 (PFO), view looking west.



<b>Photo No. 74.</b>
<b>Date:</b> 08/04/2023
<b>Description:</b>  Wetland 28 (PFO), view looking south.





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 75.**

**Date:**  
 08/04/2023

**Description:**  
 Wetland 28 (PFO),  
 view looking east.



**Photo No. 76.**

**Date:**  
 08/04/2023

**Description:**  
 Stream 26  
 (ephemeral), view  
 looking downstream  
 (south).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 77.**

**Date:**  
 08/04/2023

**Description:**  
 Stream 26  
 (ephemeral), view  
 looking down at  
 observed substrate.



**Photo No. 78.**

**Date:**  
 08/04/2023

**Description:**  
 Stream 26  
 (ephemeral), view  
 looking upstream  
 (north).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 79.**

**Date:**  
08/04/2023

**Description:**  
Stream 27  
(ephemeral), view  
looking downstream  
(southeast).



**Photo No. 80.**

**Date:**  
08/04/2023

**Description:**  
Stream 27  
(ephemeral), view  
looking down at  
observed substrate.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 81.**

**Date:**  
08/04/2023

**Description:**  
Stream 27  
(ephemeral), view  
looking upstream  
(northwest).




**Photo No. 82.**

**Date:**  
08/02/2023

**Description:**  
Stream 25  
(perennial), view  
looking downstream  
(east).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 83.</b>	
<b>Date:</b> 08/02/2023	
<b>Description:</b>  Stream 25 (perennial), view looking down at observed substrate.	

<b>Photo No. 84.</b>	
<b>Date:</b> 08/02/2023	
<b>Description:</b>  Stream 25 (perennial), view looking upstream (west).	

<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 85.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b> Wetland 27 (PFO), view looking north.



<b>Photo No. 86.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b> Wetland 27 (PFO), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 87.**

**Date:**  
08/02/2023

**Description:**  
Wetland 27 (PFO),  
view looking south.



**Photo No. 88.**

**Date:**  
08/02/2023

**Description:**  
Wetland 27 (PFO),  
view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 89.</b>
<b>Date:</b> 08/01/2023
<b>Description:</b>  View looking east within typical mowed median (developed open space).



<b>Photo No. 90.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Stream 5 (intermittent), view looking downstream (southeast).





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 91.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Stream 5 (intermittent), view looking down at substrate observed.



<b>Photo No. 92.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Stream 5 (intermittent), view looking upstream (northwest).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 93.**

**Date:**  
08/02/2023

**Description:**  
Stream 6 (perennial),  
view looking  
downstream (east).



**Photo No. 94.**

**Date:**  
08/02/2023

**Description:**  
Stream 6 (perennial),  
view looking down at  
substrate observed.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 95.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Stream 6 (perennial), view looking upstream (west).



<b>Photo No. 96.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Wetland 7 (PEM), view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 97.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Wetland 7 (PEM), view looking west.



<b>Photo No. 98.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Wetland 7 (PEM), view looking south.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 99.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Wetland 7 (PEM), view looking east.



<b>Photo No. 100.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Wetland 29 (PEM), view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 101.</b>	
<b>Date:</b> 08/08/2023	
<b>Description:</b>  Wetland 29 (PEM), view looking west.	

<b>Photo No. 102.</b>	
<b>Date:</b> 08/08/2023	
<b>Description:</b>  Wetland 29 (PEM), view looking south.	

<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.:</b> 528418.0000.0000
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<b>Photo No. 103.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Wetland 29 (PEM), view looking east.



<b>Photo No. 104.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Stream 32 (intermittent), view looking downstream (east).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 105.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Stream 32 (intermittent), view looking down at substrate observed.



<b>Photo No. 106.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Stream 32 (intermittent), view looking upstream (west).





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 107.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Stream 34 (intermittent), view looking downstream (west).



<b>Photo No. 108.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Stream 34 (intermittent), view looking down at observed substate.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 109.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Stream 34 (intermittent), view looking upstream (west).



<b>Photo No. 110.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Stream 33 (intermittent), view looking downstream (southeast).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 111.**

**Date:**  
 08/08/2023

**Description:**

Stream 33  
 (intermittent), view  
 looking down at  
 observed substrate.



**Photo No. 112.**

**Date:**  
 08/08/2023

**Description:**

Stream 33  
 (intermittent), view  
 looking upstream  
 (northwest).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 113.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Wetland 30 (PEM), view looking north.



<b>Photo No. 114.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Wetland 30 (PEM), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 115.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b> Wetland 30 (PEM), view looking south.



<b>Photo No. 116.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b> Wetland 30 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 117.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Wetland 8 (PSS), view looking north.



<b>Photo No. 118.</b>
<b>Date:</b> 08/02/2023
<b>Description:</b>  Wetland 8 (PSS), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 119.**

**Date:**  
08/02/2023

**Description:**  
Wetland 8 (PSS),  
view looking south.



**Photo No. 120.**

**Date:**  
08/02/2023

**Description:**  
Wetland 8 (PSS),  
view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 121.**

**Date:**  
 08/02/2023

**Description:**  
 Stream 7 (perennial),  
 view looking  
 downstream (north).



**Photo No. 122.**

**Date:**  
 08/02/2023

**Description:**  
 Stream 7 (perennial),  
 view looking down at  
 observed substrate.





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 123.**

**Date:**  
 08/02/2023

**Description:**  
 Stream 7 (perennial),  
 view looking  
 upstream (south).



**Photo No. 124.**

**Date:**  
 08/10/2023

**Description:**  
 View of typical  
 developed open  
 space (mowed  
 median) within the  
 project, view looking  
 east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 125.</b>
<b>Date:</b> 08/10/2023
<b>Description:</b>  View looking north from developed open space (median) towards roadway shoulder.



<b>Photo No. 126.</b>
<b>Date:</b> 08/03/2023
<b>Description:</b>  Stream 9 (intermittent), view looking downstream (east).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 127.**

**Date:**  
08/03/2023

**Description:**  
Stream 9  
(intermittent), view  
looking down at  
observed substrate.



**Photo No. 128.**

**Date:**  
08/03/2023

**Description:**  
Stream 9  
(intermittent), view  
looking upstream  
(west).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 129.</b>
<b>Date:</b> 08/03/2023
<b>Description:</b>  Wetland 9 (PEM), view looking north.



<b>Photo No. 130.</b>
<b>Date:</b> 08/03/2023
<b>Description:</b>  Wetland 9 (PEM), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 131.</b>
<b>Date:</b> 08/03/2023
<b>Description:</b>  Wetland 9 (PEM), view looking south.



<b>Photo No. 132.</b>
<b>Date:</b> 08/03/2023
<b>Description:</b>  Wetland 9 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 133.**

**Date:**  
08/03/2023

**Description:**  
Stream 8 (perennial),  
view looking  
downstream (east).



**Photo No. 134.**

**Date:**  
08/03/2023

**Description:**  
Stream 8 (perennial),  
view looking down at  
observed substrate.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 135.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Stream 8 (perennial), view looking upstream (west).



<b>Photo No. 136.</b>
<b>Date:</b> 08/03/2023
<b>Description:</b>  Wetland 10 (PEM), view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 137.</b>
<b>Date:</b> 08/03/2023
<b>Description:</b>  Wetland 10 (PEM), view looking west.



<b>Photo No. 138.</b>
<b>Date:</b> 08/03/2023
<b>Description:</b>  Wetland 10 (PEM), view looking south.





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 139.**

**Date:**  
08/03/2023

**Description:**  
Wetland 10 (PEM),  
view looking east.



**Photo No. 140.**

**Date:**  
08/08/2023

**Description:**  
Stream 13  
(ephemeral), view  
looking downstream  
(east).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 141.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Stream 13 (ephemeral), view looking down at observed substrate.



<b>Photo No. 142.</b>
<b>Date:</b> 08/08/2023
<b>Description:</b>  Stream 13 (ephemeral), view looking upstream (west).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 143.**

**Photo Date:**  
08/08/2023

**Description:**

Stream 31 (intermittent), view looking downstream (north).



**Photo No. 144.**

**Photo Date:**  
08/08/2023

**Description:**

Stream 31 (intermittent), view looking down at substrate observed.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 145.**

**Photo Date:**  
08/08/2023

**Description:**

Stream 31 (intermittent), view looking upstream (north).



**Photo No. 146.**

**Photo Date:**  
08/08/2023

**Description:**

Stream 14 (ephemeral), view looking downstream (west).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 147.**

**Photo Date:**  
08/08/2023

**Description:**

Stream 14 (ephemeral), view looking down at observed substrate.



**Photo No. 148.**

**Photo Date:**  
08/08/2023

**Description:**

Stream 14 (ephemeral), view looking upstream (east).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 149.**

**Photo Date:**  
08/03/2023

**Description:**  
Stream 10 Black River, view looking downstream (west).



**Photo No. 150.**

**Photo Date:**  
08/03/2023

**Description:**  
Stream 10 Black River, view looking down at observed substrate.



**Client Name:**  
Ohio Department of Transportation

**Site Location:**  
Elyria Township, Elyria, Sheffield Village and  
Avon, Lorain County, Ohio

**Project No.**  
528418.0000.0000

**Photo No. 151.**  
**Photo Date:**  
08/03/2023  
**Description:**  
Stream 10 Black  
River, view looking  
upstream (east).



**Photo No. 152.**  
**Photo Date:**  
08/03/2023  
**Description:**  
Wetland 11 (PEM),  
view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 153.**

**Photo Date:**  
08/03/2023

**Description:**  
Wetland 11 (PEM),  
view looking west.



**Photo No. 154.**

**Photo Date:**  
08/03/2023

**Description:**  
Wetland 11 (PEM),  
view looking south.





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 155.**

**Photo Date:**  
08/03/2023

**Description:**  
Wetland 11 (PEM),  
view looking east.



**Photo No. 156.**

**Photo Date:**  
08/03/2023

**Description:**  
Stream 11  
(perennial), view  
looking downstream  
(west).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 157.**

**Photo Date:**  
08/03/2023

**Description:**

Stream 11 (perennial), view looking down at observed substrate.



**Photo No. 158.**

**Photo Date:**  
08/03/2023

**Description:**

Stream 11 (perennial), view looking upstream (east).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 159.**

**Photo Date:**  
08/03/2023

**Description:**  
Wetland 12 (PEM), view looking north.



**Photo No. 160.**

**Photo Date:**  
08/03/2023

**Description:**  
Wetland 12 (PEM), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 161.**

**Photo Date:**  
08/03/2023

**Description:**  
Wetland 12 (PEM), view looking south.



**Photo No. 162.**

**Photo Date:**  
08/03/2023

**Description:**  
Wetland 12 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 163.**

**Photo Date:**  
08/03/2023

**Description:**

Stream 15 (ephemeral), view looking downstream (south).



**Photo No. 164.**

**Photo Date:**  
08/03/2023

**Description:**

Stream 15 (ephemeral), view looking down at substrate observed.



**Client Name:**  
Ohio Department of Transportation

**Site Location:**  
Elyria Township, Elyria, Sheffield Village and  
Avon, Lorain County, Ohio

**Project No.**  
528418.0000.0000

**Photo No. 165.**

**Photo Date:**  
08/03/2023

**Description:**

Stream 15  
(ephemeral), view  
looking upstream  
(north).



**Photo No. 166.**

**Photo Date:**  
08/03/2023

**Description:**

Stream 12  
(perennial), view  
looking downstream  
(southwest).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 167.**

**Photo Date:**  
08/03/2023

**Description:**

Stream 12 (perennial), view looking down at substrate observed.



**Photo No. 168.**

**Photo Date:**  
08/03/2023

**Description:**

Stream 12 (perennial), view looking upstream (northeast).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 169.**

**Photo Date:**  
08/08/2023

**Description:**  
Wetland 13 (PSS), view looking north.



**Photo No. 170.**

**Photo Date:**  
08/08/2023

**Description:**  
Wetland 13 (PSS), view looking west.





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 171.**

**Photo Date:**  
08/08/2023

**Description:**  
Wetland 13 (PSS),  
view looking south.



**Photo No. 172.**

**Photo Date:**  
08/08/2023

**Description:**  
Wetland 13 (PSS),  
view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 173.**

**Photo Date:**  
08/08/2023

**Description:**

Stream 16 (ephemeral), view looking downstream (north).



**Photo No. 174.**

**Photo Date:**  
08/08/2023

**Description:**

Stream 16 (ephemeral), view looking down at substrate observed.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 175.**

**Photo Date:**  
08/08/2023

**Description:**

Stream 16 (ephemeral), view looking upstream (south).



**Photo No. 176.**

**Photo Date:**  
08/10/2023

**Description:**

View looking west within typical developed open space (mowed median).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 177.**

**Photo Date:**  
08/09/2023

**Description:**

Maintained shoulder along westbound lanes (developed open space), view looking west.



**Photo No. 178.**

**Photo Date:**  
08/09/2023

**Description:**

Stream 17 (perennial), view looking downstream (northwest).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 179.**

**Photo Date:**  
08/09/2023

**Description:**

Stream 17 (perennial), view looking down at observed substrate.



**Photo No. 180.**

**Photo Date:**  
08/09/2023

**Description:**

Stream 17 (perennial), view looking upstream (southeast).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 181.**

**Photo Date:**  
08/09/2023

**Description:**  
Wetland 14 (PFO),  
view looking north.



**Photo No. 182.**

**Photo Date:**  
08/09/2023

**Description:**  
Wetland 14 (PFO),  
view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 183.**

**Photo Date:**  
08/09/2023

**Description:**  
Wetland 14 (PFO),  
view looking south.



**Photo No. 184.**

**Photo Date:**  
08/09/2023

**Description:**  
Wetland 14 (PFO),  
view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 185.**

**Photo Date:**  
08/09/2023

**Description:**

Typical PRT observed within wetland young woods community. PRT was dead (*Ulmus*) with exfoliating bark.



**Photo No. 186.**

**Photo Date:**  
08/09/2023

**Description:**

Maintained median between westbound lanes and on-ramp (developed open space), view looking south.





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 187.**

**Photo Date:**  
08/15/2023

**Description:**  
View looking east towards I-90 along Detroit Rd shoulder (developed open space).



**Photo No. 188.**

**Photo Date:**  
08/15/2023

**Description:**  
Mowed community observed within cloverleaf (developed open space), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 189.**

**Photo Date:**  
08/09/2023

**Description:**

Typical upland community observed within shoulder adjacent to on-ramp for eastbound lanes; view looking north.



**Photo No. 190.**

**Photo Date:**  
08/10/2023

**Description:**

Typical developed open space (mowed median) observed within project area; view looking south.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 191.**

**Photo Date:**  
08/09/2023

**Description:**

View looking north within typical developed open space along shoulder of eastbound lanes.



**Photo No. 192.**

**Photo Date:**  
08/10/2023

**Description:**

Typical developed open space (mowed median) observed within project area; view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 193.**

**Photo Date:**  
08/15/2023

**Description:**  
Wetland 20 (PFO),  
view looking north.



**Photo No. 194.**

**Photo Date:**  
08/15/2023

**Description:**  
Wetland 20 (PFO),  
view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 195.**

**Photo Date:**  
08/15/2023

**Description:**  
Wetland 20 (PFO), view looking south.



**Photo No. 196.**

**Photo Date:**  
08/15/2023

**Description:**  
Wetland 20 (PFO), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 197.**

**Photo Date:**  
08/14/2023

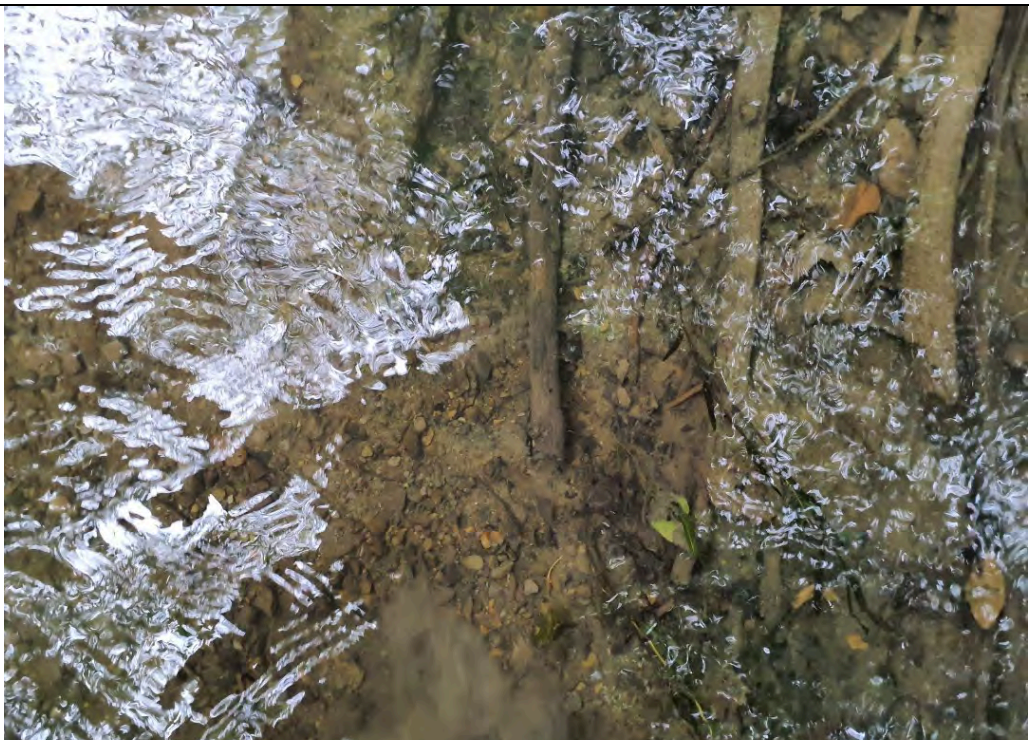
**Description:**  
Stream 24 (perennial), view looking downstream (northeast)



**Photo No. 198.**

**Photo Date:**  
08/14/2023

**Description:**  
Stream 24 (perennial), view looking down at substrate observed.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 199.**

**Photo Date:**  
08/14/2023

**Description:**

Stream 24 (perennial), view looking upstream (southwest).



**Photo No. 200.**

**Photo Date:**  
08/14/2023

**Description:**

Stream 23 Jungbluth Ditch (perennial), view looking downstream northwest).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 201.**

**Photo Date:**  
08/14/2023

**Description:**  
Stream 23 Jungbluth Ditch (perennial), view looking down at observed substrate.



**Photo No. 202.**

**Photo Date:**  
08/14/2023

**Description:**  
Stream 23 Jungbluth Ditch (perennial), view looking upstream (southeast).





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 203.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 19 (PEM),  
view looking north.



**Photo No. 204.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 19 (PEM),  
view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 205.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 19 (PEM), view looking south.



**Photo No. 206.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 19 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 207.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 18 (PEM), view looking north.



**Photo No. 208.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 18 (PEM), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 209.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 18 (PEM), view looking south.



**Photo No. 210.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 18 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 211.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 17 (PEM),  
view looking north.



**Photo No. 212.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 17 (PEM),  
view looking west.



**Client Name:**  
Ohio Department of Transportation

**Site Location:**  
Elyria Township, Elyria, Sheffield Village and  
Avon, Lorain County, Ohio

**Project No.**  
528418.0000.0000

**Photo No. 213.**  
**Photo Date:**  
08/14/2023  
**Description:**  
Wetland 17 (PEM),  
view looking south.



**Photo No. 214.**  
**Photo Date:**  
08/14/2023  
**Description:**  
Wetland 17 (PEM),  
view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 215.**

**Photo Date:**  
08/10/2023

**Description:**

Typical developed open space (mowed median) observed within project area; view looking north.



**Photo No. 216.**

**Photo Date:**  
08/14/2023

**Description:**

Wetland 16 (PSS), view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 217.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 16 (PSS), view looking west.



**Photo No. 218.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 16 (PSS), view looking south.





**Client Name:**  
Ohio Department of Transportation

**Site Location:**  
Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio

**Project No.**  
528418.0000.0000

**Photo No. 219.**

**Photo Date:**  
08/14/2023

**Description:**  
Wetland 16 (PSS),  
view looking east.



**Photo No. 220.**

**Photo Date:**  
08/9/2023

**Description:**  
Stream 18 Walker Ditch (perennial),  
view looking downstream  
(northwest).



**Client Name:**  
Ohio Department of Transportation

**Site Location:**  
Elyria Township, Elyria, Sheffield Village and  
Avon, Lorain County, Ohio

**Project No.**  
528418.0000.0000

**Photo No. 221.**

**Photo Date:**  
08/9/2023

**Description:**  
Stream 18 Walker  
Ditch (perennial),  
view looking down at  
observed substrate.



**Photo No. 222.**

**Photo Date:**  
08/9/2023

**Description:**  
Stream 18 Walker  
Ditch (perennial),  
view looking  
upstream  
(southeast).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 223.**

**Photo Date:**  
08/11/2023

**Description:**  
Wetland 32 (PFO), view looking north.



**Photo No. 224.**

**Photo Date:**  
08/11/2023

**Description:**  
Wetland 32 (PFO), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 225.**

**Photo Date:**  
 08/11/2023

**Description:**  
 Wetland 32 (PFO), view looking south.



**Photo No. 226.**

**Photo Date:**  
 08/11/2023

**Description:**  
 Wetland 32 (PFO), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 227.**

**Photo Date:**  
 08/10/2023

**Description:**

Typical developed open space (mowed median) observed within project area; view looking south.



**Photo No. 228.**

**Photo Date:**  
 08/10/2023

**Description:**

Stream 21 (perennial), view looking downstream (northwest).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 229.**

**Photo Date:**  
08/10/2023

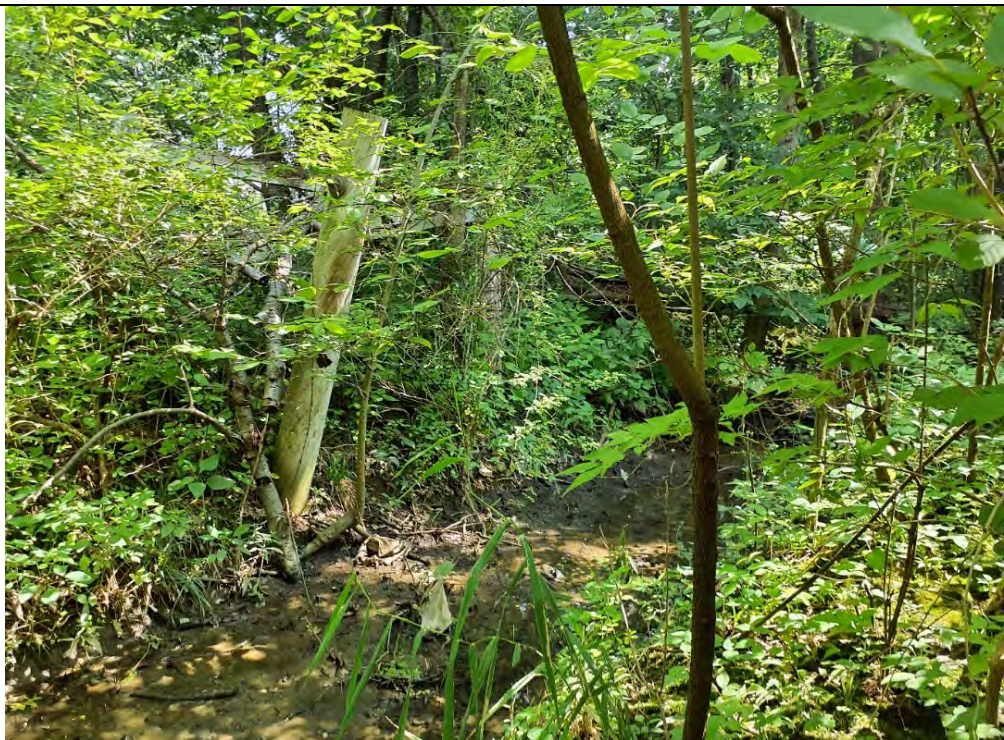
**Description:**  
Stream 21 (perennial), view looking down at substrate observed.



**Photo No. 230.**

**Photo Date:**  
08/10/2023

**Description:**  
Stream 21 (perennial), view looking upstream (southeast).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 231.**

**Photo Date:**  
08/11/2023

**Description:**

Typical PRT observed within wetland young woods community. PRT was dead (*Fraxinus*) with exfoliating bark.



**Photo No. 232.**

**Photo Date:**  
08/10/2023

**Description:**

Stream 22 Kline Ditch (perennial), view looking downstream (northwest).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 233.**

**Photo Date:**  
08/10/2023

**Description:**  
Stream 22 Kline Ditch (perennial), view looking down at observed substrate.



**Photo No. 234.**

**Photo Date:**  
08/10/2023

**Description:**  
Stream 22 Kline Ditch (perennial), view looking upstream (southeast).





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 235.**

**Photo Date:**  
08/10/2023

**Description:**  
Wetland 31 (PEM), view looking north.



**Photo No. 236.**

**Photo Date:**  
08/10/2023

**Description:**  
Wetland 31 (PEM), view looking west.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 237.**

**Photo Date:**  
08/10/2023

**Description:**  
Wetland 31 (PEM), view looking south.



**Photo No. 238.**

**Photo Date:**  
08/10/2023

**Description:**  
Wetland 31 (PEM), view looking east.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 239.**

**Photo Date:**  
08/10/2023

**Description:**  
View looking south within typical mowed median (developed open space).



**Photo No. 240.**

**Photo Date:**  
08/10/2023

**Description:**  
Stream 19 French Creek (perennial), looking downstream (west).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 241.**

**Photo Date:**  
08/10/2023

**Description:**

Stream 19 French Creek (perennial), view looking down at observed substrate.



**Photo No. 242.**

**Photo Date:**  
08/10/2023

**Description:**

Stream 19 French Creek (perennial), view looking upstream (east).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 243.**

**Photo Date:**  
08/10/2023

**Description:**  
Stream 20 (perennial), view looking downstream (south).



**Photo No. 244.**

**Photo Date:**  
08/10/2023

**Description:**  
Stream 20 (perennial), view looking down at observed substrate.



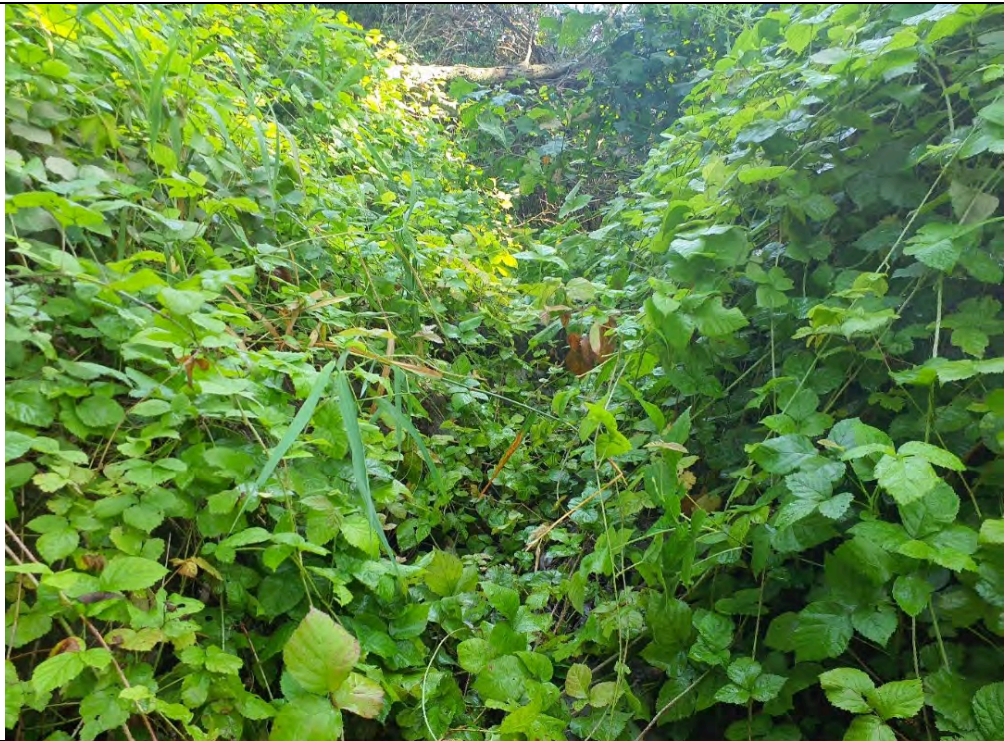
<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 245.**

**Photo Date:**  
08/10/2023

**Description:**

Stream 20 (perennial), view looking upstream (north).



**Photo No. 246.**

**Photo Date:**  
08/9/2023

**Description:**

View looking north within cloverleaf of typical mowed upland vegetation (developed open space).



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 247.**

**Photo Date:**  
08/10/2023

**Description:**  
 Typical developed open space within project area, view looking north.



**Photo No. 248.**

**Photo Date:**  
08/11/2023

**Description:**  
 Wetland 15 (PEM), view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 249.**

**Photo Date:**  
08/11/2023

**Description:**  
Wetland 15 (PEM), view looking west.



**Photo No. 250.**

**Photo Date:**  
08/11/2023

**Description:**  
Wetland 15 (PEM), view looking south.





<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 251.**

**Photo Date:**  
08/11/2023

**Description:**  
Wetland 15 (PEM), view looking east.



**Photo No. 252.**

**Photo Date:**  
08/15/2023

**Description:**  
Wetland 21 (PEM), view looking north.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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**Photo No. 253.**

**Photo Date:**  
08/15/2023

**Description:**  
Wetland 21 (PEM), view looking west.



**Photo No. 254.**

**Photo Date:**  
08/15/2023

**Description:**  
Wetland 21 (PEM), view looking south.



<b>Client Name:</b> Ohio Department of Transportation	<b>Site Location:</b> Elyria Township, Elyria, Sheffield Village and Avon, Lorain County, Ohio	<b>Project No.</b> 528418.0000.0000
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<b>Photo No. 255.</b>
<b>Photo Date:</b> 08/15/2023
<b>Description:</b>  Wetland 21 (PEM), view looking east.



## **Appendix 3**

### **Forms**

SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOP-90-10.76 (PID 107714), south of the eastbound I-90 lanes and north of the westbound I-90 lanes  
 SITE NUMBER \_\_\_\_\_ RIVER CODE 04110001 RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.63  
 LENGTH OF STREAM REACH (ft) 97 LAT. 41.401853 LONG. -82.150628 RIVER MILE \_\_\_\_\_  
 DATE 2023-07-31 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pts]	<u>70</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>5</u>
<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>15</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	_____
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>10</u>	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 15 (A) (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **15** TOTAL NUMBER OF SUBSTRATE TYPES: **4**

**HHEI Metric Points**  
Substrate Max = 40  
**19**  
A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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]

COMMENTS \_\_\_\_\_ MAXIMUM POOL DEPTH (centimeters): **25**

Pool Depth Max = 30  
**30**

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS \_\_\_\_\_ AVERAGE BANKFULL WIDTH (meters): **2.2**

Bankfull Width Max=30  
**20**

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide >10m		Mature Forest, Wetland	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>
Moderate 5-10m		Residential, Park, New Field	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>
Narrow <5m			<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
None			<input type="checkbox"/>
COMMENTS _____			<input type="checkbox"/>

**FLOW REGIME (At Time of Evaluation) (Check ONLY one box):**  
 Stream Flowing  
 Subsurface flow with isolated pools (Interstitial)  
 Moist Channel, isolated pools, no flow (Intermittent)  
 Dry channel, no water (Ephemeral)  
 COMMENTS \_\_\_\_\_

**SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):**  
 None  
 0.5  
 1.0  
 1.5  
 2.0  
 2.5  
 3.0  
 >3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/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: Martin Run Distance from Evaluated Stream \_\_\_\_  
 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: Lorain NRCS Soil Map Page: N/A NRCS Soil Map Stream Order N/A  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-07-30 Quantity: .1 inch

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): no Canopy (% open): 50

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 24.3 Dissolved Oxygen (mg/l) \_ pH (S.U.) 7.86 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

Highway

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/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

FLOW →

SEE PAGE 3

Dellfield Rd.

LOD-90

Stream 1

MARTIN RUN



Houses /

Residential

Wooded

Incised

ODOT FENCE

O = Boulder

{ = LL

≡ = Overhang veg

⊂ = Dwd

Tree line

Slope

LOD-90

Curvent

Slope

barro

Hill Slope

90E

Curvent

mowed lawn

Hill Slope

ODOT FENCE

Flow

Flow

Flow

Tree line

Murray Ridge



SITE NAME/LOCATION ODOT - LOR-90-10.76 (PID 107714), south of the eastbound lanes of I-90  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.0006  
 LENGTH OF STREAM REACH (ft) 60 LAT. 41.402867 LONG. -82.145667 RIVER MILE       
 DATE 2023-07-31 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	<u>    </u>	<input checked="" type="checkbox"/> SILT [3 pts]	<u>70</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>    </u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>    </u>
<input type="checkbox"/> BEDROCK [16 pts]	<u>    </u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	<u>    </u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>15</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>    </u>
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>    </u>	<input type="checkbox"/> MUCK [0 pts]	<u>15</u>
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>    </u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>    </u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 15      (A)      (B)

**SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:** 15      **TOTAL NUMBER OF SUBSTRATE TYPES:** 3

---

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

<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 [5 pts]
<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS           **MAXIMUM POOL DEPTH (centimeters):** 15

---

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements)** (Check *ONLY* one box):

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS           **AVERAGE BANKFULL WIDTH (meters):** 2

**HHEI Metric Points**

Substrate Max = 40

18

A + B

---

Pool Depth Max = 30

25

---

Bankfull Width Max=30

20

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

<u>RIPARIAN WIDTH</u>		<u>FLOODPLAIN QUALITY</u>	
L	R	L	R
<input type="checkbox"/>	(Per Bank)	<input type="checkbox"/>	(Most Predominant per Bank)
<input checked="" type="checkbox"/>	Wide >10m	<input checked="" type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	Moderate 5-10m	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input checked="" type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	None	<input checked="" type="checkbox"/>	Fenced Pasture
<input type="checkbox"/>		<input type="checkbox"/>	Conservation Tillage
	COMMENTS <u>    </u>	<input type="checkbox"/>	Urban or Industrial
		<input type="checkbox"/>	Open Pasture, Row Crop
		<input type="checkbox"/>	Mining or Construction

**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**

<input checked="" type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Lorain NRCS Soil Map Page:    NRCS Soil Map Stream Order     
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-07-30 Quantity: .1 inch

Photo-documentation Notes:   

Elevated Turbidity? (Y/N): no Canopy (% open): 75

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results):   

Field Measures: Temp (°C) 24 Dissolved Oxygen (mg/l)    pH (S.U.) 9 Conductivity (µmhos/cm)   

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N)    Species observed (if known):   

Frogs or Tadpoles Observed? (Y/N)    Species observed (if known):   

Salamanders Observed? (Y/N)    Species observed (if known):   

Aquatic Macroinvertebrates Observed? (Y/N)    Species observed (if known):   

Comments Regarding Biology:

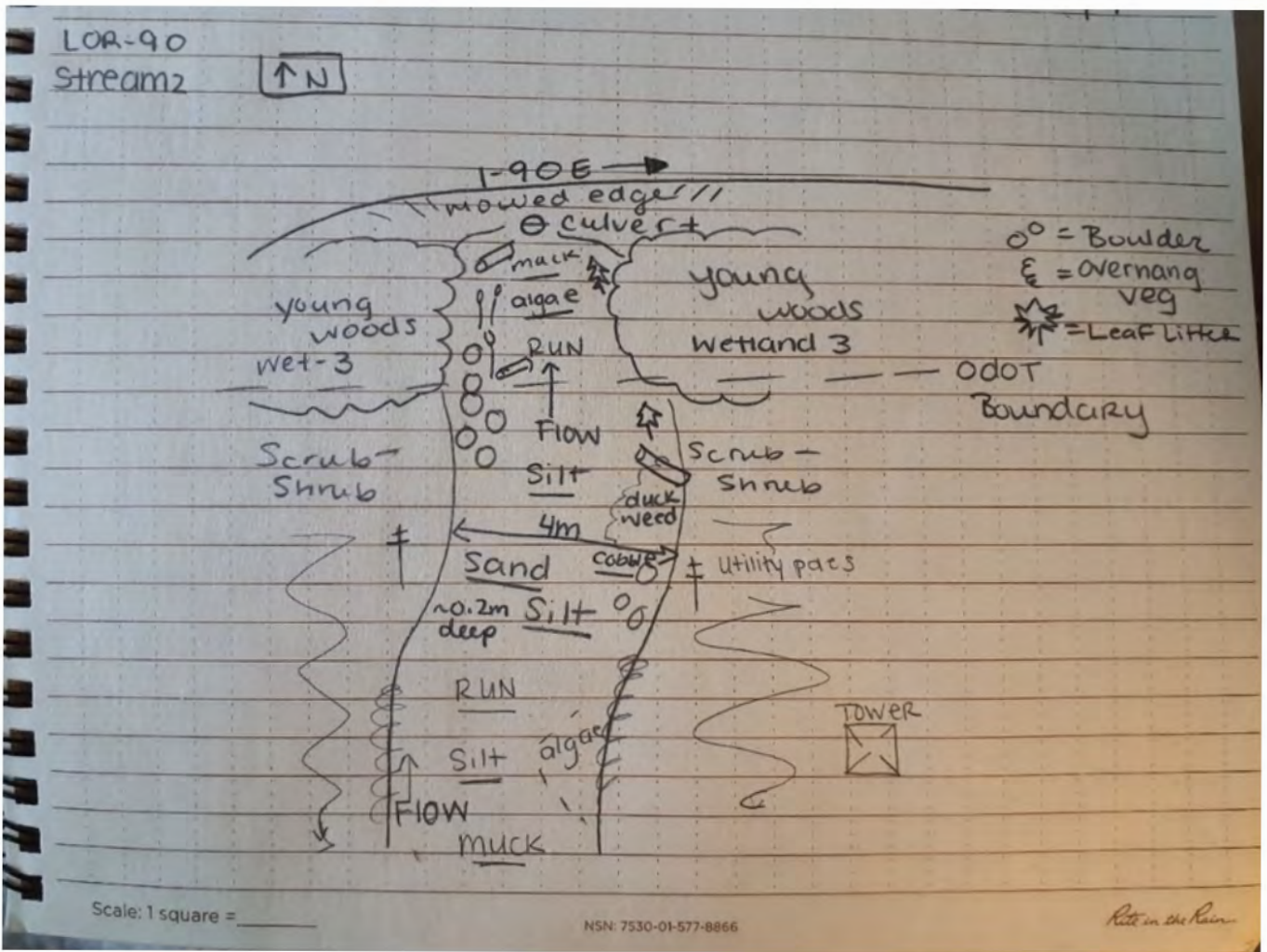
**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

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

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EKG-02



SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOR-90-10.76 (PID 107714), between the eastbound and westbound lanes of I-90  
 SITE NUMBER \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.055  
 LENGTH OF STREAM REACH (ft) 142 LAT. 41.402834 LONG. -82.140571 RIVER MILE \_\_\_\_\_  
 DATE 2023-08-01 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	___	<input checked="" type="checkbox"/> SILT [3 pts]	<u>60</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	___	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u>
<input type="checkbox"/> BEDROCK [16 pts]	___	<input type="checkbox"/> FINE DETRITUS [3 pts]	<u>10</u>
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	___	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>20</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]	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3

TOTAL NUMBER OF SUBSTRATE TYPES: 4

**HHEI Metric Points**

Substrate Max = 40

7

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS \_\_\_\_\_

MAXIMUM POOL DEPTH (centimeters): 8

Pool Depth Max = 30

15

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<input checked="" 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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS \_\_\_\_\_

AVERAGE BANKFULL WIDTH (meters): 1.1

Bankfull Width Max=30

15

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	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"/>	Conservation Tillage
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

**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 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Lorain NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: .05 in

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .25

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) .23 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.31 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

Highway

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/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

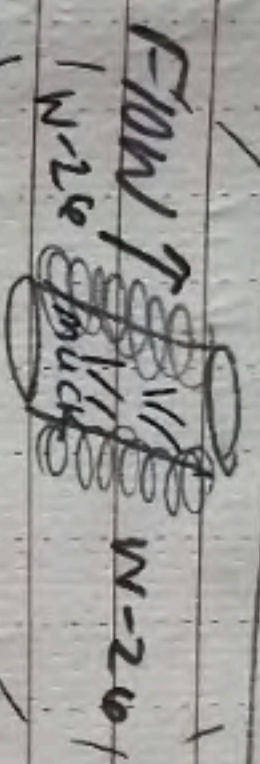
FLOW →

SEE PAGE 3

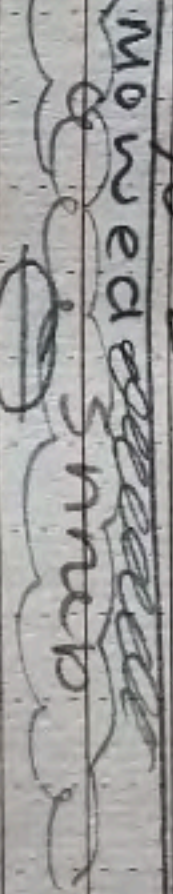
LOR-90  
Streams

↑N

← 90-M



90-E →



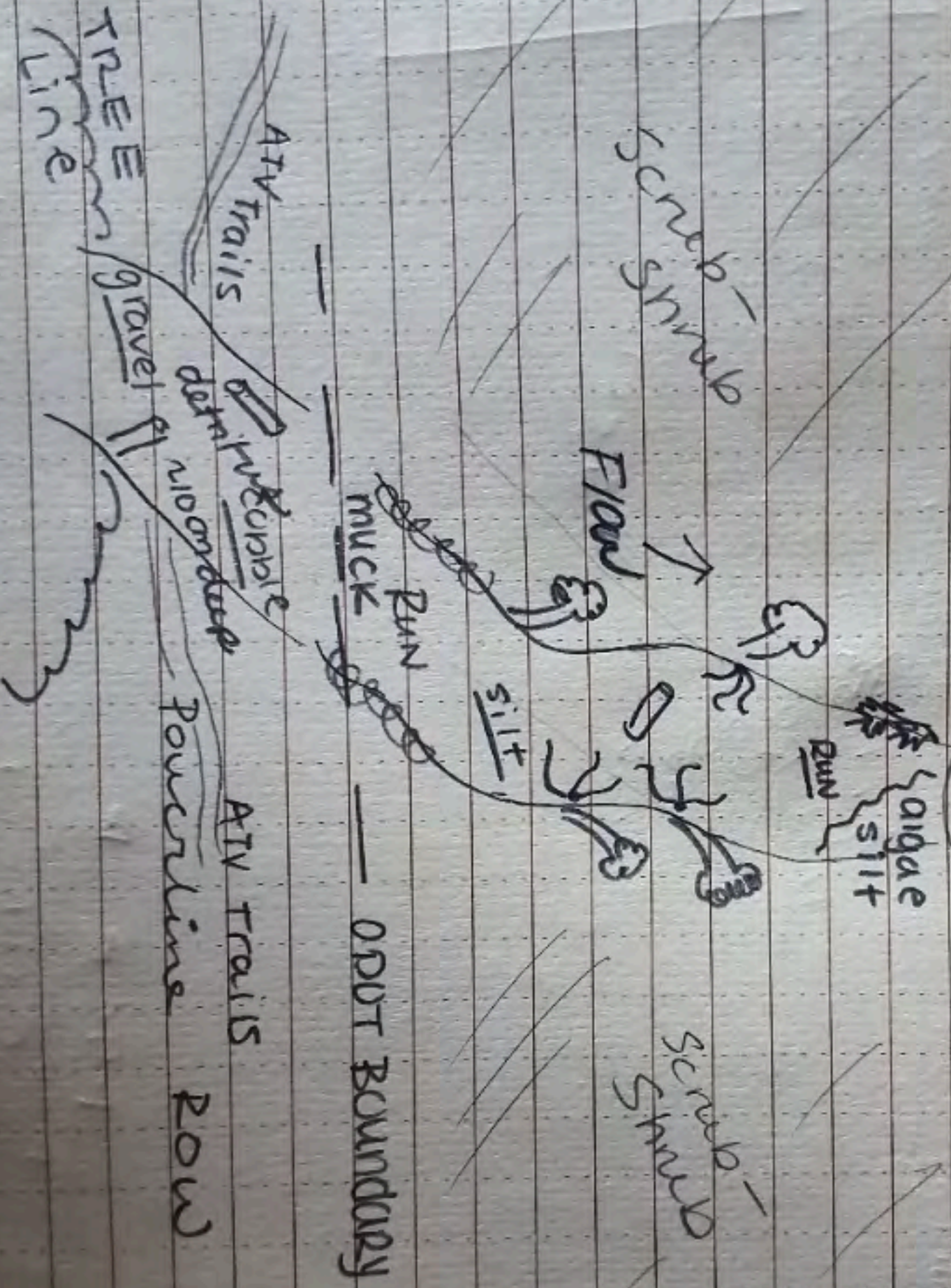
W = Macrophytes  
E = overhanging veg

R = LL

R = Rootwad

C = Cwd

T = Tree



SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOP-90-10.76 (PID 107714), north and south of I-90, west of Lake Ave  
 SITE NUMBER \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.098  
 LENGTH OF STREAM REACH (ft) 66 LAT. 41.403317 LONG. -82.13316 RIVER MILE \_\_\_\_\_  
 DATE 2023-08-01 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pts]	_____
<input checked="" 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 checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>40</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>20</u>
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>20</u>	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 60 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 28

TOTAL NUMBER OF SUBSTRATE TYPES: 4

**HHEI Metric Points**

Substrate Max = 40

32

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS \_\_\_\_\_

MAXIMUM POOL DEPTH (centimeters): 10

Pool Depth Max = 30

15

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS \_\_\_\_\_

AVERAGE BANKFULL WIDTH (meters): 1.1

Bankfull Width Max=30

15

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wide >10m	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

**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 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 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Lorain NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: .05 inch

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .20

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 24.3 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.25 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

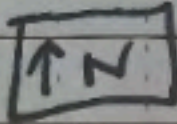
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

Stream 4

LOR-90



90-E →

mowed

culvert (5 FT x 5 FT)

wooded

FINW

RUN

cobble

wooded

clay

ORUN

Riffle

gravel

Residential

OUT Boundary

clay

cobble

culvert

30 inch

LAKE AVE

O = Boulder

∩ = dwd

✱ = L

⋈ = Roots

⊠ = artificial Substrate

≡ = overhang veg

Scale: 1 square = \_\_\_\_\_





---

**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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: .05 in

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): no Canopy (% open): 35

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 22 Dissolved Oxygen (mg/l) \_ pH (S.U.) 7.99 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/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

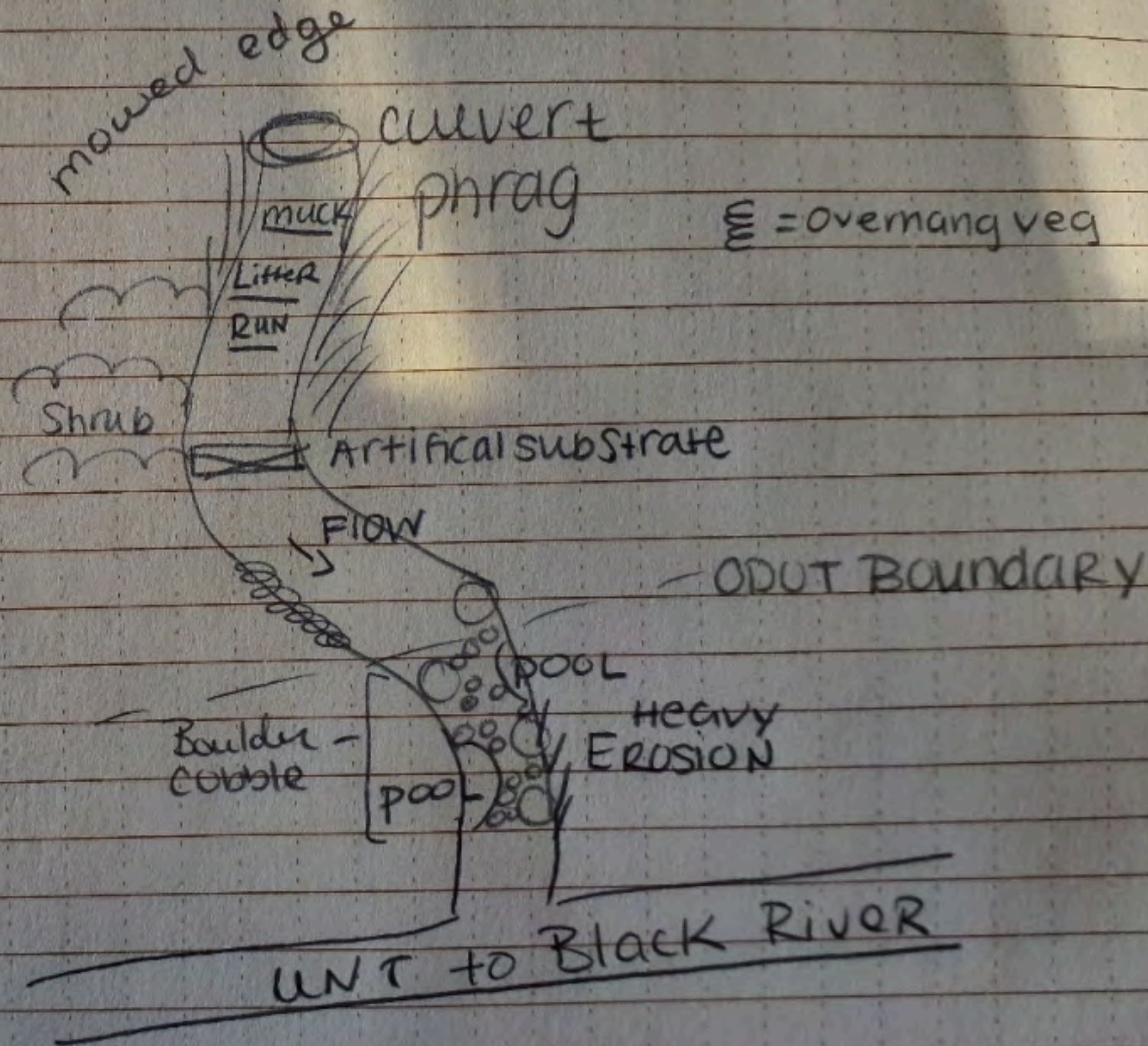
**FLOW** →

SEE PAGE 3

Stream 5  
LOR-90

↑ N

LS-HD



Scale: 1 square = \_\_\_\_\_

Stream & Location: Stream 6 - UNT to Black River ;West of W River Rd near I-90 & 57 Interchange RM: 2197 Date: 8/2/23

Elyria, Lorain County OH; HUC 04110001 0602

Scorers Full Name & Affiliation: Emma Given TRC Companies

River Code:

STORET #:

Lat./ Long.: 41.403522 / -82.114322

Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

Substrate assessment table with categories: BEST TYPES, OTHER TYPES, ORIGIN, QUALITY. Includes checkboxes for BLDR/SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, HARDPAN, DETRITUS, MUCK, SILT, ARTIFICIAL, LIMESTONE, TILLS, WETLANDS, SANDSTONE, RIP/RAP, LACUSTURINE, SHALE, COAL FINES, HEAVY, MODERATE, NORMAL, EXTENSIVE, FREE, etc.

Also silt, sand, detritus, and artificial substrate

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

AMOUNT

Check ONE (Or 2 & average)

Instream Cover assessment table with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS > 70cm, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS, EXTENSIVE, MODERATE, SPARSE, NEARLY ABSENT.

Comments

Cover Maximum 20 11

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment table with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes for HIGH, MODERATE, LOW, NONE, EXCELLENT, GOOD, FAIR, POOR, NONE, RECOVERED, RECOVERING, RECENT OR NO RECOVERY, HIGH, MODERATE, LOW.

Comments

Channel Maximum 20 12.5

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

Bank Erosion and Riparian Zone assessment table with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION.

Comments

Riparian Maximum 10 7

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH

CHANNEL WIDTH

CURRENT VELOCITY

Check ONE (ONLY!)

Check ONE (Or 2 & average)

Check ALL that apply

Pool/Glide and Riffle/Run Quality assessment table with checkboxes for depth, width, and velocity categories.

Comments

Recreation Potential Primary Contact Secondary Contact

Pool / Current Maximum 12 5

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/Run Quality assessment table with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS.

Comments

Riffle / Run Maximum 8 0

6] GRADIENT (20.2 ft/mi) DRAINAGE AREA (1.74 mi^2) VERY LOW - LOW, MODERATE, HIGH - VERY HIGH.

%POOL: 25 %GLIDE: %RUN: 50 %RIFFLE: 25

Gradient Maximum 10 10

# AJ SAMPLED REACH

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- STAGE**
- 1st -sample pass- 2nd
  - HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

- DISTANCE**
- 0.5 Km
  - 0.2 Km
  - 0.15 Km
  - 0.12 Km
  - OTHER
- .06 meters
- CLARITY**
- 1st --sample pass-- 2nd
  - < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH

- CANOPY**
- 1st \_\_\_\_\_ cm
  - 2nd \_\_\_\_\_ cm
  - > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.  
 Nice small reach with good habitat development. Runs through culvert under I-90

pH 8.21; Temp 23.6 C

- BJ AESTHETICS**
- NUISANCE ALGAE
  - INVASIVE MACROPHYTES
  - EXCESS TURBIDITY
  - DISCOLORATION
  - FOAM / SCUM
  - OIL SHEEN
  - TRASH / LITTER
  - NUISANCE ODOR
  - SLUDGE DEPOSITS
  - CSOs/SSOs/OUTFALLS
- CJ RECREATION**
- AREA DEPTH  
 POOL:  >100ft<sup>2</sup>  >3ft

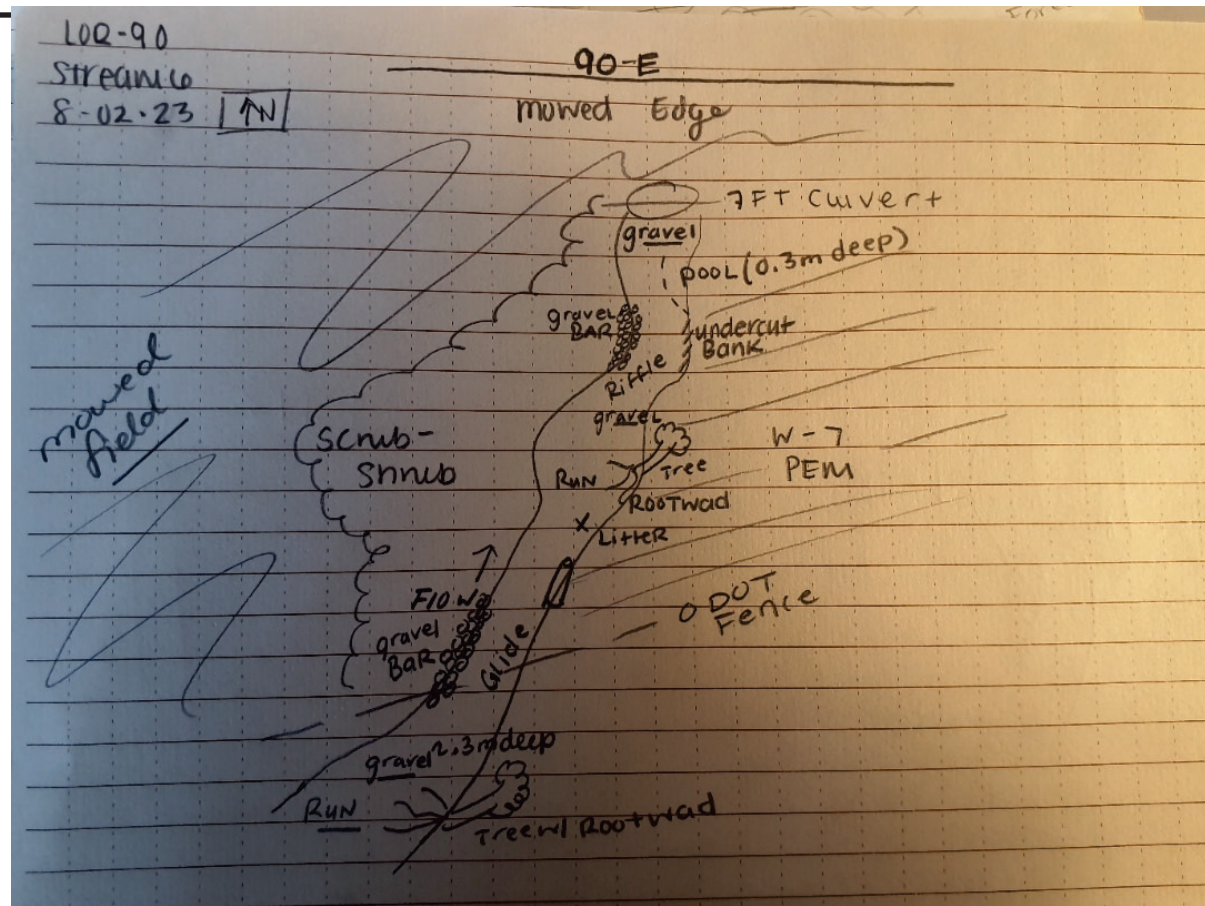
- DJ MAINTENANCE**
- PUBLIC / PRIVATE / BOTH / NA
  - ACTIVE / HISTORIC / BOTH / NA
  - YOUNG-SUCCESSION-OLD
  - SPRAY / SNAG / REMOVED
  - MODIFIED / DIPPED OUT / NA
  - LEVEED / ONE SIDED
  - RELOCATED / CUTOFFS
  - MOVING-BEDLOAD-STABLE
  - ARMOURED / SLUMPS
  - ISLANDS / SCOURED
  - IMPOUNDED / DESICCATED
  - FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

- EJ 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 H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
  - ACID / MINE / QUARRY / FLOW
  - NATURAL / WETLAND / STAGNANT
  - PARK / GOLF / LAWN / HOME
  - ATMOSPHERE / DATA PAUCITY

- FJ MEASUREMENTS**
- $\bar{x}$  width 4.5
  - $\bar{x}$  depth 0.15
  - max. depth 0.3m
  - $\bar{x}$  bankfull width
  - bankfull  $\bar{x}$  depth
  - W/D ratio 30
  - bankfull max. depth
  - floodprone  $x^2$  width
  - entrench. ratio
- Legacy Tree:

## Stream Drawing:



SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOP-90-10.76 (PID 107714), north and south of I-90 and west of W River Rd  
 SITE NUMBER \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER BASIN \_\_\_\_\_ DRAINAGE AREA (mi<sup>2</sup>) 0.17  
 LENGTH OF STREAM REACH (ft) 65 LAT. 41.404445 LONG. -82.11135 RIVER MILE \_\_\_\_\_  
 DATE 2023-08-02 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDG SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pts]	_____
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>20</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>15</u>
<input type="checkbox"/> BEDROCK [16 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>35</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	_____
<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]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 55 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **21**

TOTAL NUMBER OF SUBSTRATE TYPES: **4**

**HHEI Metric Points**

Substrate Max = 40

**25**

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" 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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS \_\_\_\_\_

MAXIMUM POOL DEPTH (centimeters): **55**

Pool Depth Max = 30

**20**

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS \_\_\_\_\_

AVERAGE BANKFULL WIDTH (meters): **2.3**

Bankfull Width Max=30

**20**

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L R (Per Bank)

Wide >10m

Moderate 5-10m

Narrow <5m

None

COMMENTS \_\_\_\_\_

L R (Most Predominant per Bank)

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

**FLOW REGIME (At Time of Evaluation) (Check ONLY one box):**

Stream Flowing

Subsurface flow with isolated pools (Interstitial)

COMMENTS \_\_\_\_\_

Moist Channel, isolated pools, no flow (Intermittent)

Dry channel, no water (Ephemeral)

**SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):**

None

0.5

1.0

1.5

2.0

2.5

3.0

>3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)

Flat to Moderate

Moderate (2 ft/100 ft)

Moderate to Severe

Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: .05 in

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): 15

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 26.6 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.47 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/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

FLOW →

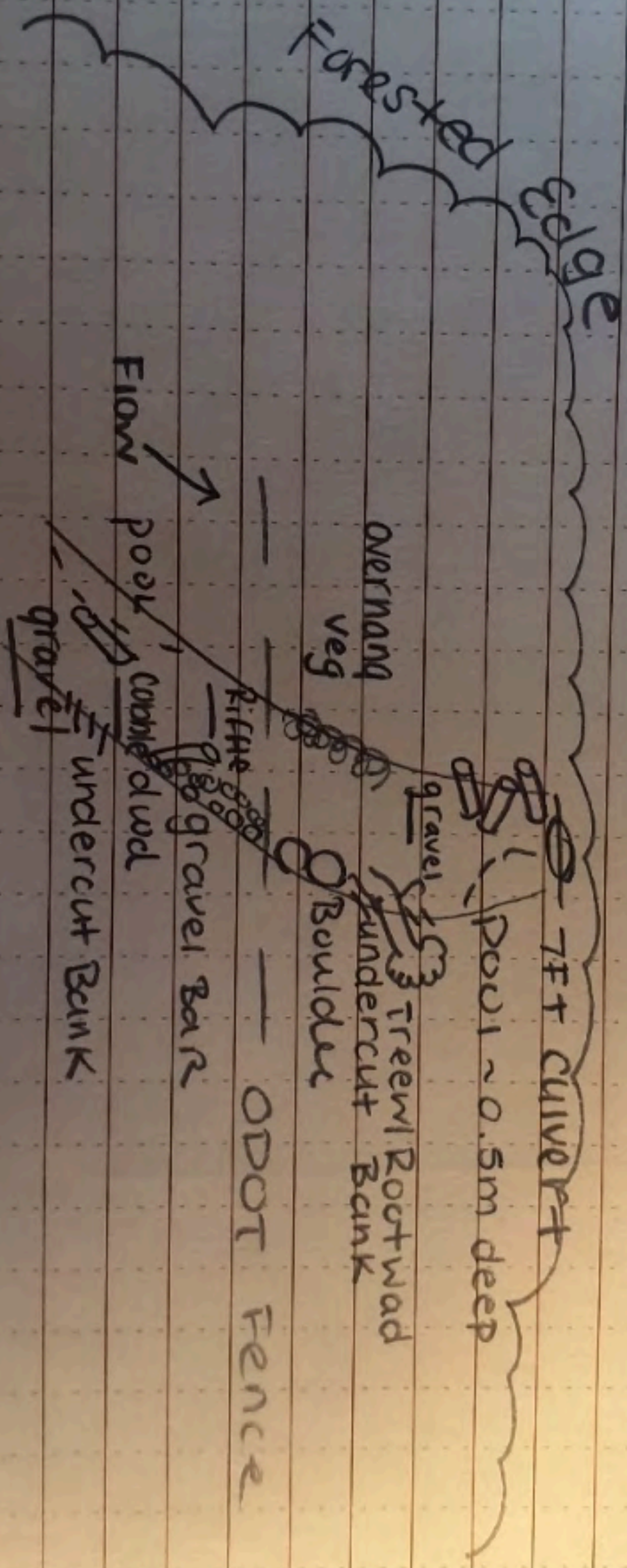
SEE PAGE 3

LUR-90 Stream 7

[ANN]

90-E ->

Steep slope  
Mowed Edge



Scale: 1 square = \_\_\_\_\_



SITE NAME/LOCATION ODOT - LOR-90-10.76 (PID 107714), north and south of Interstate 90, west of Black River Bikeway  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.49  
 LENGTH OF STREAM REACH (ft) 200 LAT. 41.407067 LONG. -82.102461 RIVER MILE       
 DATE 2023-08-03 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	<u>    </u>	<input type="checkbox"/> SILT [3 pts]	<u>    </u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>15</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>    </u>
<input type="checkbox"/> BEDROCK [16 pts]	<u>15</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	<u>    </u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>35</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>    </u>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>35</u>	<input type="checkbox"/> MUCK [0 pts]	<u>    </u>
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>    </u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>    </u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 65 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **21**

TOTAL NUMBER OF SUBSTRATE TYPES: **4**

**HHEI Metric Points**

Substrate Max = 40

**25**

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" 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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS     

MAXIMUM POOL DEPTH (centimeters): **38**

Pool Depth Max = 30

**20**

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS     

AVERAGE BANKFULL WIDTH (meters): **1.8**

Bankfull Width Max=30

**20**

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide >10m		Mature Forest, Wetland	<input type="checkbox"/>
		Immature Forest, Shrub or Old Field	<input checked="" type="checkbox"/>
Moderate 5-10m		Residential, Park, New Field	<input type="checkbox"/>
		Fenced Pasture	<input type="checkbox"/>
Narrow <5m			<input type="checkbox"/>
None			<input type="checkbox"/>
COMMENTS <u>    </u>			

**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 <u>    </u>	

**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 ft/100 ft)     Flat to Moderate     Moderate (2 ft/100 ft)     Moderate to Severe     Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: .05 in

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .70

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 21.4 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.25 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

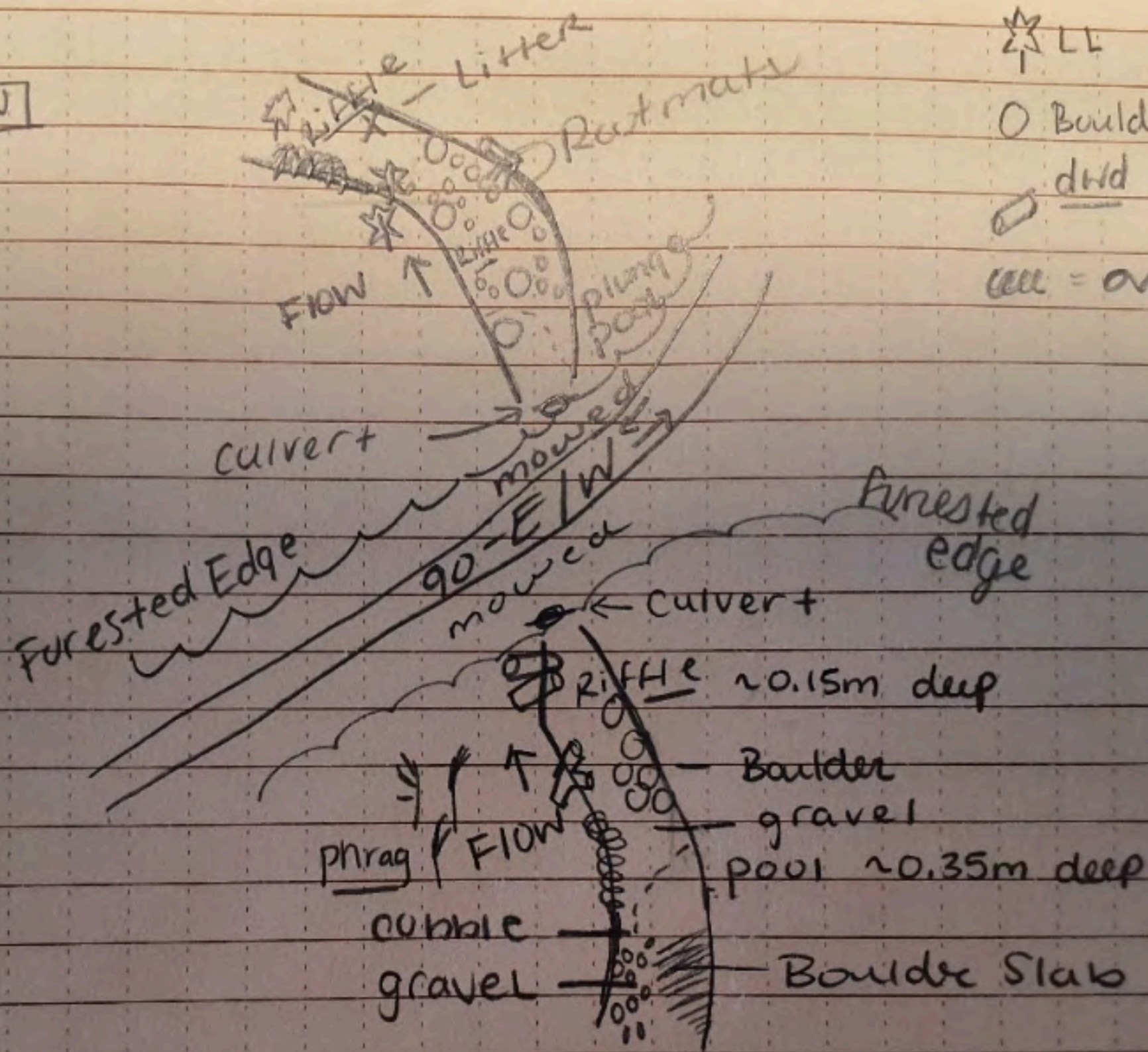
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

LOP-90  
Stream 8

↑N



⊛ LL

○ Builders

▭ dwd

⌋ = overhang veg



**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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: 0.05

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): 30

Were samples collected for water chemistry? (Y/N): .no Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 21.8 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.07 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

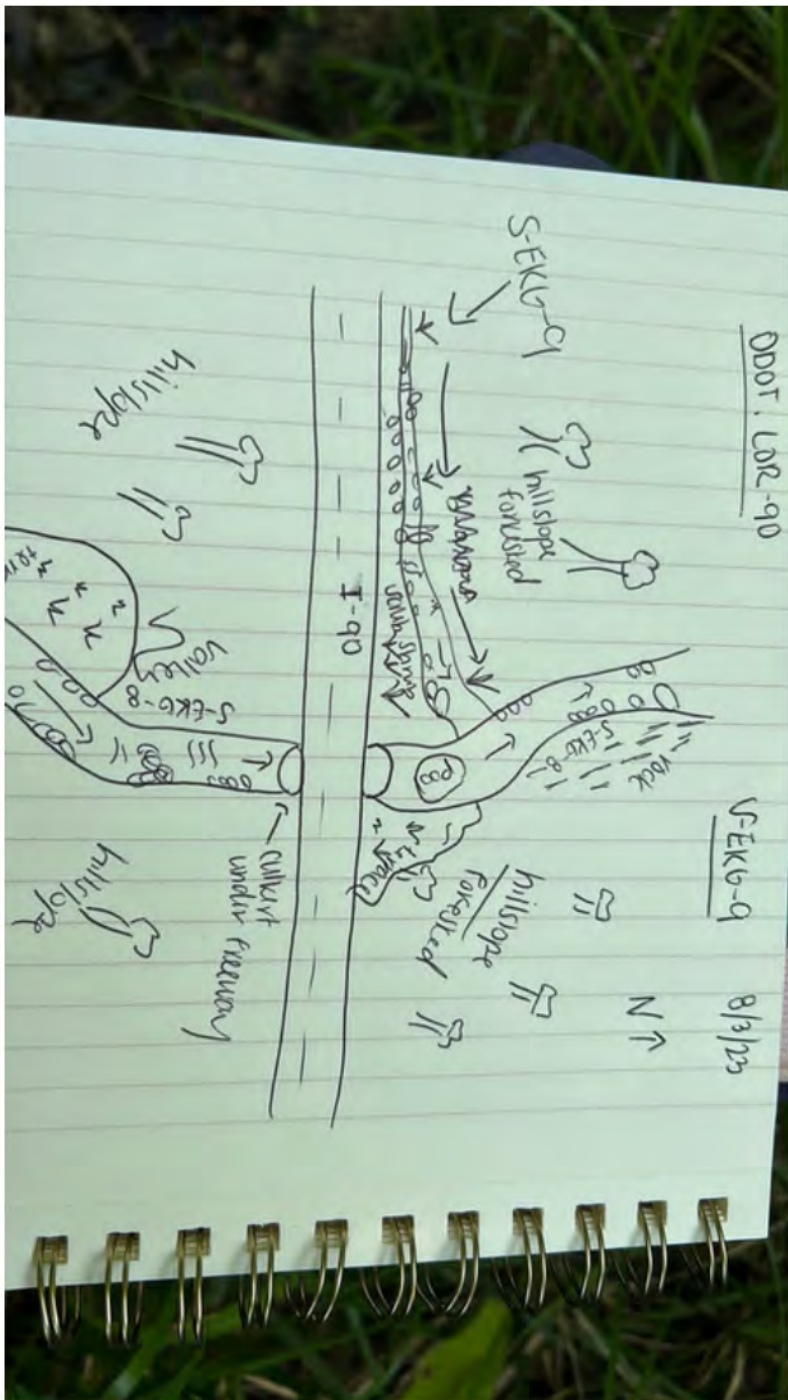
**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

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

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: STREAM 9



Stream & Location: Black River under LOR-90 within Black River Reservation

RM: 9.5 Date: 8/3/23

Scorers Full Name & Affiliation: Emma Given TRC companies

River Code: Stream 10

STORET #:

Lat./ Long.: 41.411190 / -82.100530

Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

Substrate assessment grid with categories: BEST TYPES, OTHER TYPES, ORIGIN, QUALITY. Includes checkboxes for BLDR/SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, etc.

Also boulder, cobble, some silt

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

AMOUNT

Check ONE (Or 2 & average)

Instream Cover assessment grid with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS > 70cm, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS.

Comments

Cover Maximum 20

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment grid with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY.

Comments

Channel Maximum 20

impacted by bridges under I-90

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

Bank Erosion and Riparian Zone assessment grid with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION.

Comments

Riparian Maximum 10

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH

CHANNEL WIDTH

CURRENT VELOCITY

Check ONE (ONLY!)

Check ONE (Or 2 & average)

Check ALL that apply

Pool/Glide and Riffle/Run Quality assessment grid with checkboxes for depth, width, and velocity categories.

Comments

Reach located in park for recreation

Recreation Potential Primary Contact Secondary Contact (circle one and comment on back)

Pool / Current Maximum 12

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/Run Quality assessment grid with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS.

Comments

Substrate mostly sandy

Riffle / Run Maximum 8

6] GRADIENT ( 6.84 ft/mi)

DRAINAGE AREA ( 414 mi^2)

Gradient assessment grid with checkboxes for VERY LOW - LOW, MODERATE, HIGH - VERY HIGH.

Pool, Glide, Run, Riffle percentage assessment grid.

Gradient Maximum 10

# AJ SAMPLED REACH

Check ALL that apply

- METHOD**
- BOAT  
 WADE  
 L. LINE  
 OTHER
- DISTANCE**
- 0.5 Km  
 0.2 Km  
 0.15 Km  
 0.12 Km  
 OTHER  
 .06 meters
- STAGE**
- 1st -sample pass- 2nd
- HIGH  
 UP  
 NORMAL  
 LOW  
 DRY

- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm  
 20-<40 cm  
 40-70 cm  
 > 70 cm/ CTB  
 SECCHI DEPTH
- CANOPY**
- 1st \_\_\_\_\_ cm  
 2nd \_\_\_\_\_ cm
- > 85%- OPEN  
 55%-<85%  
 30%-<55%  
 10%-<30%  
 <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.  
 Scored Good.

ph 8.21, temp 24.1

- BJ AESTHETICS**
- NUISANCE ALGAE  
 INVASIVE MACROPHYTES  
 EXCESS TURBIDITY  
 DISCOLORATION  
 FOAM / SCUM  
 OIL SHEEN  
 TRASH / LITTER  
 NUISANCE ODOR  
 SLUDGE DEPOSITS  
 CSOs/SSOs/OUTFALLS

- DJ 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

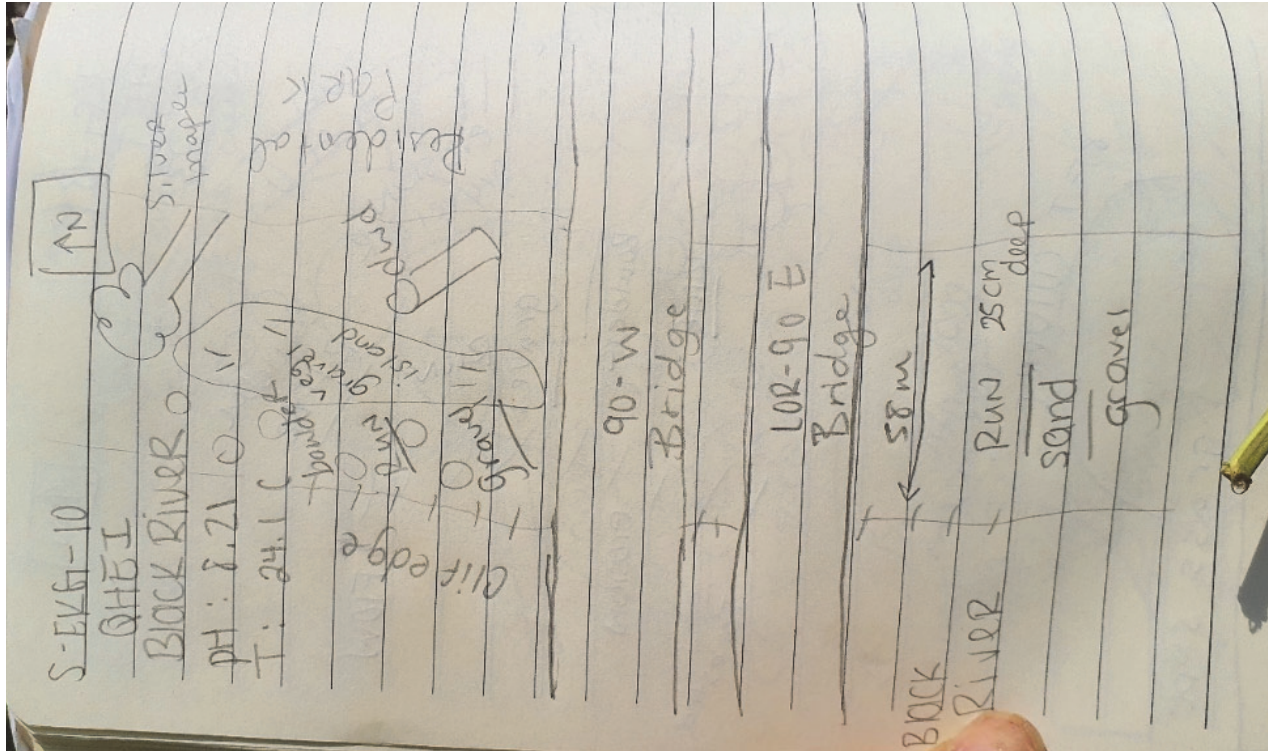
Circle some & COMMENT

- EJ 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 H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE  
 ACID / MINE / QUARRY / FLOW  
 NATURAL / WETLAND / STAGNANT  
 PARK / GOLF / LAWN / HOME  
 ATMOSPHERE / DATA PAUCITY

- FJ MEASUREMENTS**
- $\bar{x}$  width 45.5m  
 $\bar{x}$  depth .5 m  
 max. depth  
 $\bar{x}$  bankfull width  
 bankfull  $\bar{x}$  depth  
 W/D ratio  
 bankfull max. depth  
 floodprone x<sup>2</sup> width  
 entrench. ratio  
 Legacy Tree:

- CJ RECREATION**
- AREA DEPTH  
 POOL:  >100ft<sup>2</sup>  >3ft

## Stream Drawing:







**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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: .05 in.

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): no Canopy (% open): .65

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 23.3 Dissolved Oxygen (mg/l) \_ pH (S.U.) 7.83 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

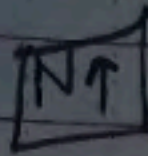
**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

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

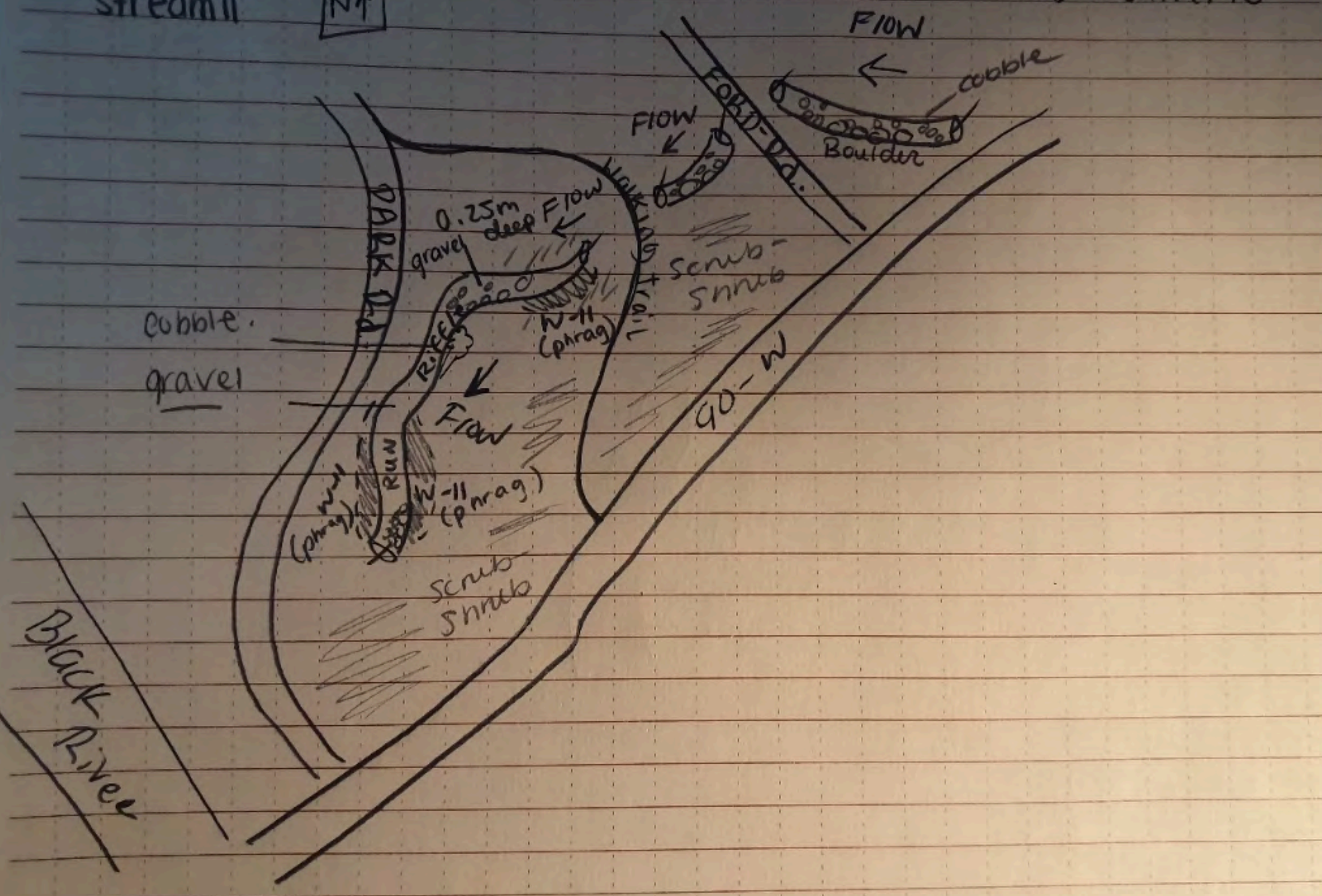
FLOW →

SEE PAGE 3

LOR-90  
Stream II



σ = culverts





**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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: .05

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .60

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 26.8 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.14 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/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

FLOW →

SEE PAGE 3

Sketch of Stream Reach Stream 12



SITE NAME/LOCATION ODOT - LOR-90-10.76 (PID 107714), west of the Black River Bikeway and east of I-90 eastbound lanes  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.098  
 LENGTH OF STREAM REACH (ft) 141 LAT. 41.408261 LONG. -82.100764 RIVER MILE       
 DATE 2023-08-08 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDG SLABS [16 pts]	<u>    </u>	<input type="checkbox"/> SILT [3 pts]	<u>    </u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>15</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>5</u>
<input type="checkbox"/> BEDROCK [16 pts]	<u>    </u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	<u>5</u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>20</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>    </u>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>55</u>	<input type="checkbox"/> MUCK [0 pts]	<u>    </u>
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>    </u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>    </u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 35 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **21**

TOTAL NUMBER OF SUBSTRATE TYPES: **5**

**HHEI Metric Points**

Substrate Max = 40

**26**

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS     

MAXIMUM POOL DEPTH (centimeters): **15**

Pool Depth Max = 30

**25**

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS     

AVERAGE BANKFULL WIDTH (meters): **0.75**

Bankfull Width Max=30

**5**

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L R (Per Bank)

Wide >10m

Moderate 5-10m

Narrow <5m

None

COMMENTS     

L R (Most Predominant per Bank)

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

**FLOW REGIME (At Time of Evaluation) (Check ONLY one box):**

Stream Flowing

Subsurface flow with isolated pools (Interstitial)

COMMENTS     

Moist Channel, isolated pools, no flow (Intermittent)

Dry channel, no water (Ephemeral)

**SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):**

None

0.5

1.0

1.5

2.0

2.5

3.0

>3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)

Flat to Moderate

Moderate (2 ft/100 ft)

Moderate to Severe

Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-07 Quantity: .29 inch

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): 15

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 20.7 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.11 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

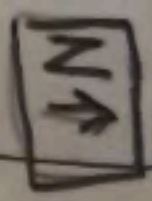
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3



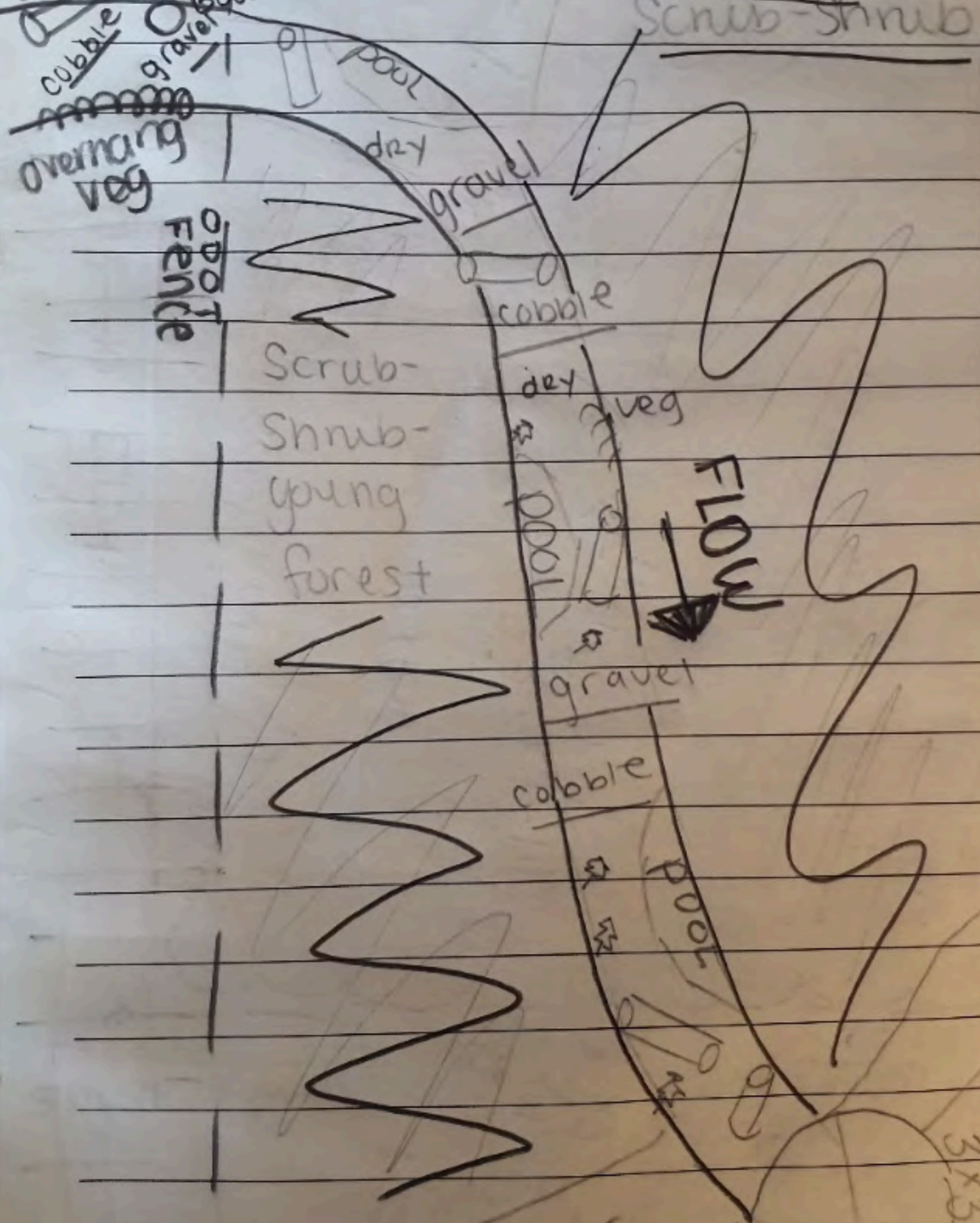
S-EKG-13



HHEI

dwd 8.8.23  
cobble  
gravel  
boulder

young forest  
Scrub-Shrub



LOP-90 E

S-EKG-14

CEMENT  
3x3 CULVERT

SITE NAME/LOCATION ODOT - LOR-90-10.76 (PID 107714), north of S-EKG-13 and east of I-90 eastbound lanes  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.003  
 LENGTH OF STREAM REACH (ft) 56 LAT. 41.408742 LONG. -82.100566 RIVER MILE       
 DATE 2023-08-08 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDG SLABS [16 pts]	<u>    </u>	<input type="checkbox"/> SILT [3 pts]	<u>    </u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>10</u>	<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>30</u>
<input type="checkbox"/> BEDROCK [16 pts]	<u>    </u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	<u>    </u>
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>20</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>    </u>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>40</u>	<input type="checkbox"/> MUCK [0 pts]	<u>    </u>
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>    </u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>    </u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 30 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **12**

TOTAL NUMBER OF SUBSTRATE TYPES: **4**

**HHEI Metric Points**

Substrate Max = 40

**16**

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS     

MAXIMUM POOL DEPTH (centimeters): **0**

Pool Depth Max = 30

**0**

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS     

AVERAGE BANKFULL WIDTH (meters): **1.2**

Bankfull Width Max=30

**15**

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

**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 type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)     Flat to Moderate     Moderate (2 ft/100 ft)     Moderate to Severe     Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-07 Quantity: .29 inch

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .5

Were samples collected for water chemistry? (Y/N): .no Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) .0 Dissolved Oxygen (mg/l) \_ pH (S.U.) .0 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:  
No water in channel, therefore temp and pH could not be taken

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_  
Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_  
Salamanders Observed? (Y/N) \_ Species observed (if known): \_  
Aquatic Macroinvertebrates Observed? (Y/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

**FLOW** →

SEE PAGE 3



SITE NAME/LOCATION ODOT - LOR-90-10.76 (PID 107714), east of I-90 eastbound lanes and west of S-EKG-12  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.0003  
 LENGTH OF STREAM REACH (ft) 173 LAT. 41.412812 LONG. -82.098051 RIVER MILE       
 DATE 2023-08-08 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	<u>    </u>	<input type="checkbox"/> SILT [3 pts]	<u>    </u>
<input checked="" type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>45</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>    </u>
<input type="checkbox"/> BEDROCK [16 pts]	<u>    </u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	<u>    </u>
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>25</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>    </u>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>30</u>	<input type="checkbox"/> MUCK [0 pts]	<u>    </u>
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>    </u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>    </u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 70 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 25

TOTAL NUMBER OF SUBSTRATE TYPES: 3

**HHEI Metric Points**

Substrate Max = 40

28

A + B

Pool Depth Max = 30

25

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS     

MAXIMUM POOL DEPTH (centimeters): 17

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS     

AVERAGE BANKFULL WIDTH (meters): 0.7

Bankfull Width Max=30

5

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field	Urban or Industrial
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture	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 checked="" 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 ft/100 ft)     Flat to Moderate     Moderate (2 ft/100 ft)     Moderate to Severe     Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-07 Quantity: .29 in

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .65

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 21.8 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.08 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

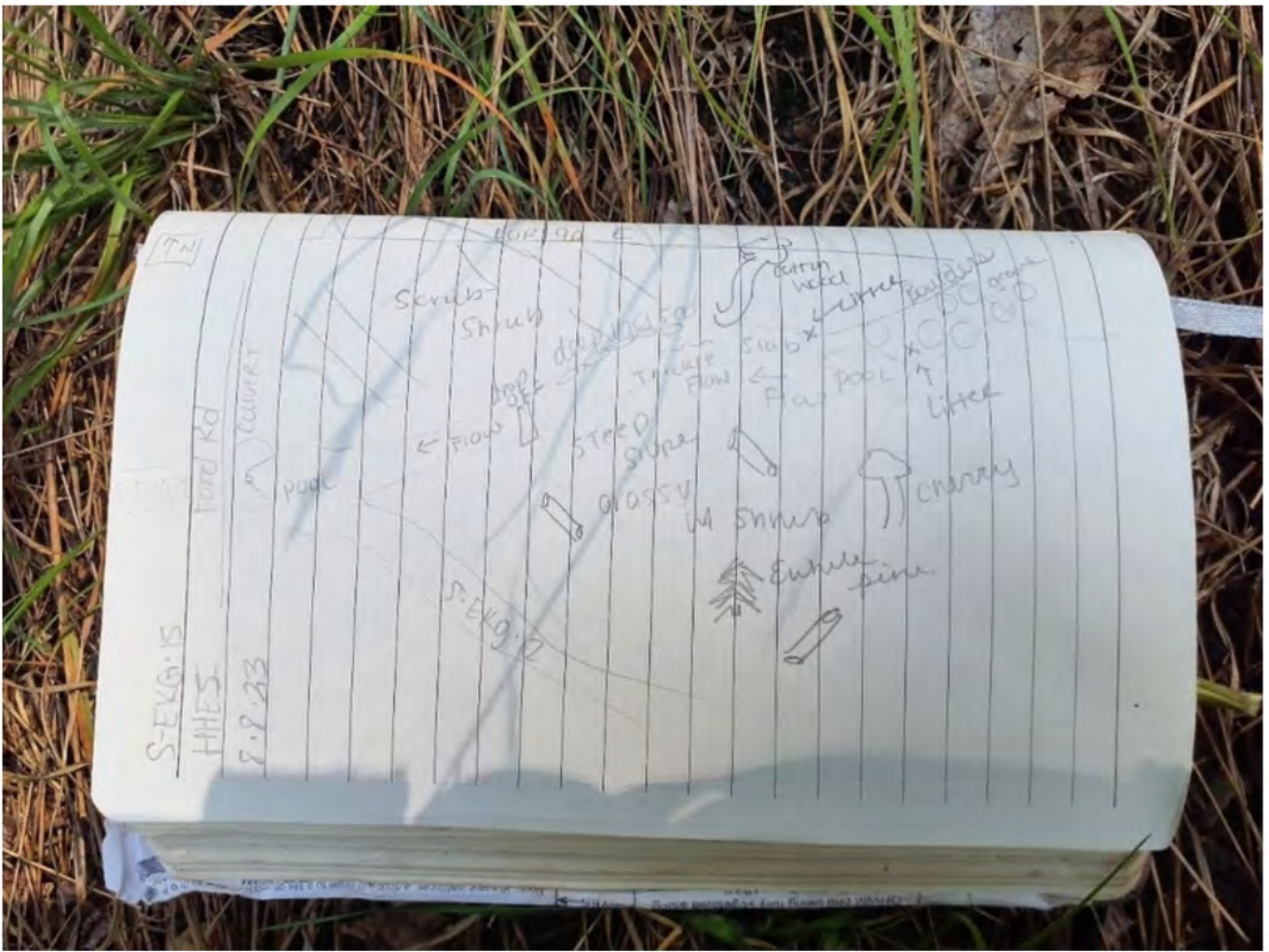
Comments Regarding Biology:

**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

FLOW →

SEE PAGE 3







**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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-07 Quantity: 0.29

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): .no Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 22.5 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.1 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/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

FLOW →

SEE PAGE 3

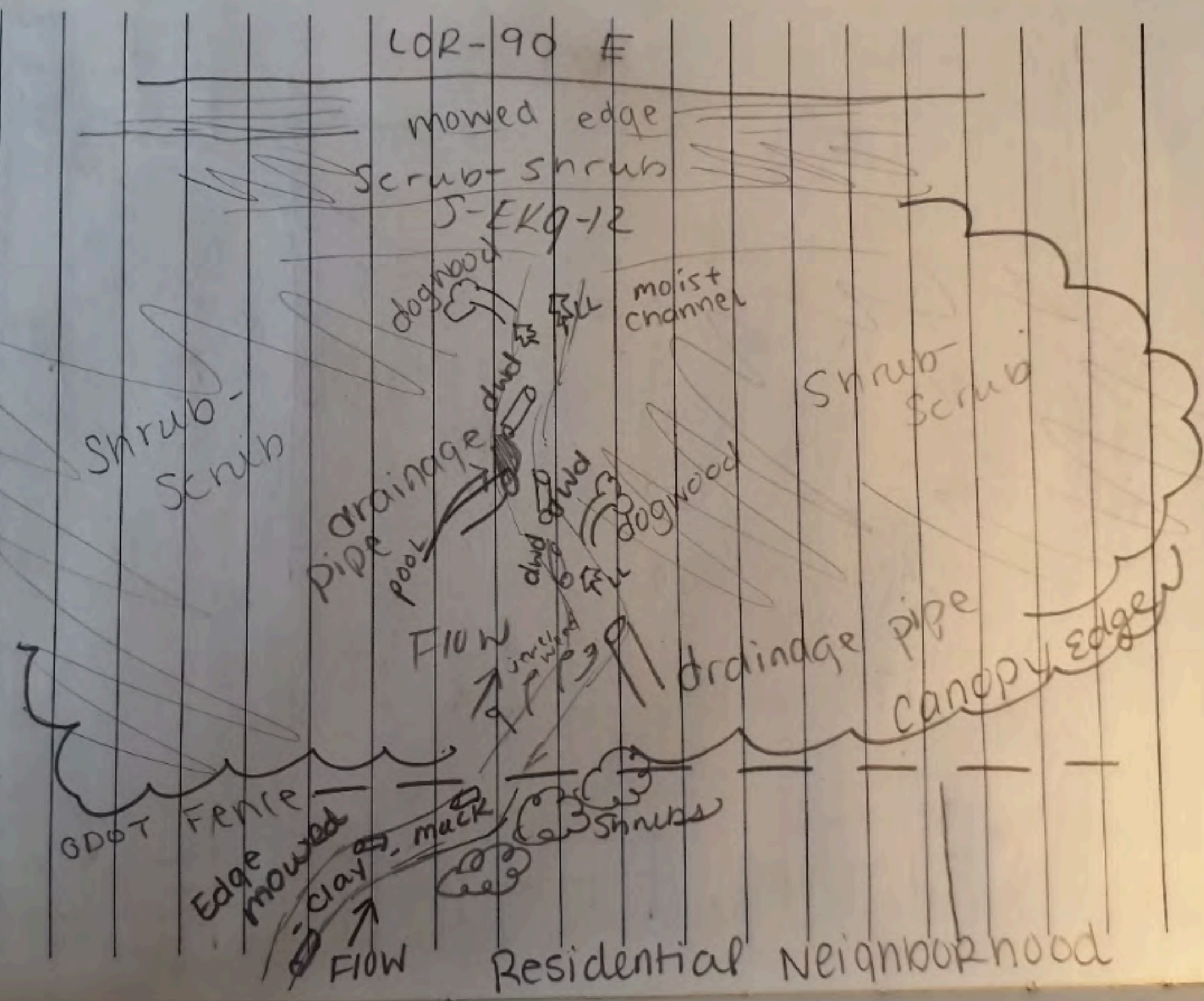
72

8.8.23

S-EKQ-10

PH 8.10

Temp 22.5



Residential Neighborhood

SITE NAME/LOCATION ODOT - LOR-90-10.76 (PID 107714), east of I-90 eastbound lanes and west of Loyola Dr  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.066  
 LENGTH OF STREAM REACH (ft) 40 LAT. 41.418075 LONG. -82.085219 RIVER MILE       
 DATE 2023-08-09 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	___	<input type="checkbox"/> SILT [3 pts]	___
<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]	<u>5</u>
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>20</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	___
<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>25</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>10</u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 20 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15

TOTAL NUMBER OF SUBSTRATE TYPES: 5

**HHEI Metric Points**

Substrate Max = 40

20

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" 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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS     

MAXIMUM POOL DEPTH (centimeters): 35

Pool Depth Max = 30

20

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS     

AVERAGE BANKFULL WIDTH (meters): 1.8

Bankfull Width Max=30

20

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wide >10m	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

**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 type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)     Flat to Moderate     Moderate (2 ft/100 ft)     Moderate to Severe     Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-07 Quantity: .29 in

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .25

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 22.7 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.15 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

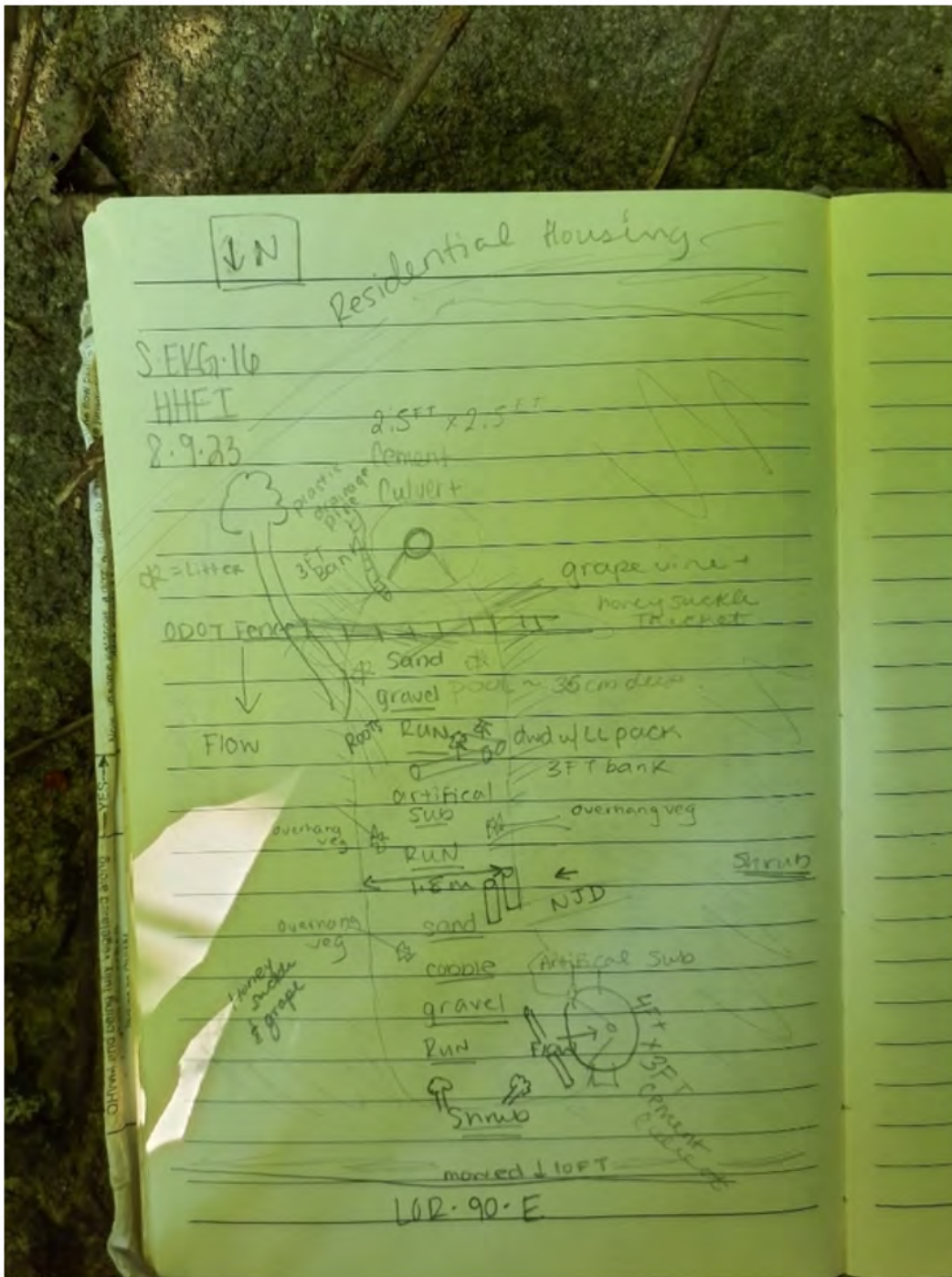
Comments Regarding Biology:

**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

FLOW →

SEE PAGE 3



SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOR-90-10.76 (PID 107714), west and east of I-90 and south of French Creek Rd  
 SITE NUMBER \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.75  
 LENGTH OF STREAM REACH (ft) 150 LAT. 41.447291 LONG. -82.07189 RIVER MILE \_\_\_\_\_  
 DATE 2023-08-09 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	___	<input type="checkbox"/> SILT [3 pts]	___
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	___	<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u>
<input type="checkbox"/> BEDROCK [16 pts]	___	<input type="checkbox"/> FINE DETRITUS [3 pts]	<u>5</u>
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	___	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	___
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	___	<input type="checkbox"/> MUCK [0 pts]	<u>10</u>
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>75</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 4

**HHEI Metric Points**  
Substrate Max = 40  
13  
A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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]

COMMENTS \_\_\_\_\_ MAXIMUM POOL DEPTH (centimeters): 25.4

**Pool Depth**  
Max = 30  
30

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements)** (Check ONLY one box):

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS \_\_\_\_\_ AVERAGE BANKFULL WIDTH (meters): 3.5

**Bankfull Width**  
Max=30  
25

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide >10m		Mature Forest, Wetland	Conservation Tillage
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	Urban or Industrial
Moderate 5-10m		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	Open Pasture, Row Crop
Narrow <5m		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	Mining or Construction
None			
COMMENTS _____			

**FLOW REGIME (At Time of Evaluation)** (Check ONLY one box):  
 Stream Flowing  
 Subsurface flow with isolated pools (Interstitial)  
 Moist Channel, isolated pools, no flow (Intermittent)  
 Dry channel, no water (Ephemeral)  
 COMMENTS \_\_\_\_\_

**SINUOSITY (Number of bends per 61 m (200 ft) of channel)** (Check ONLY one box):  
 None  
 0.5  
 1.0  
 1.5  
 2.0  
 2.5  
 3.0  
 >3

**STREAM GRADIENT ESTIMATE**  
 Flat (0.5 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/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: \_\_\_\_\_ Distance from Evaluated Stream \_\_\_\_\_  
 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: Avon NRCS Soil Map Page:    NRCS Soil Map Stream Order     
County: Lorain Township / City: SHEFFIELD

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-07 Quantity: .29 in

Photo-documentation Notes: \_\_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .65

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results):   

Field Measures: Temp (°C) 25.4 Dissolved Oxygen (mg/l)    pH (S.U.) 7.76 Conductivity (µmhos/cm)   

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N)    Species observed (if known):   

Frogs or Tadpoles Observed? (Y/N)    Species observed (if known):   

Salamanders Observed? (Y/N)    Species observed (if known):   

Aquatic Macroinvertebrates Observed? (Y/N)    Species observed (if known):   

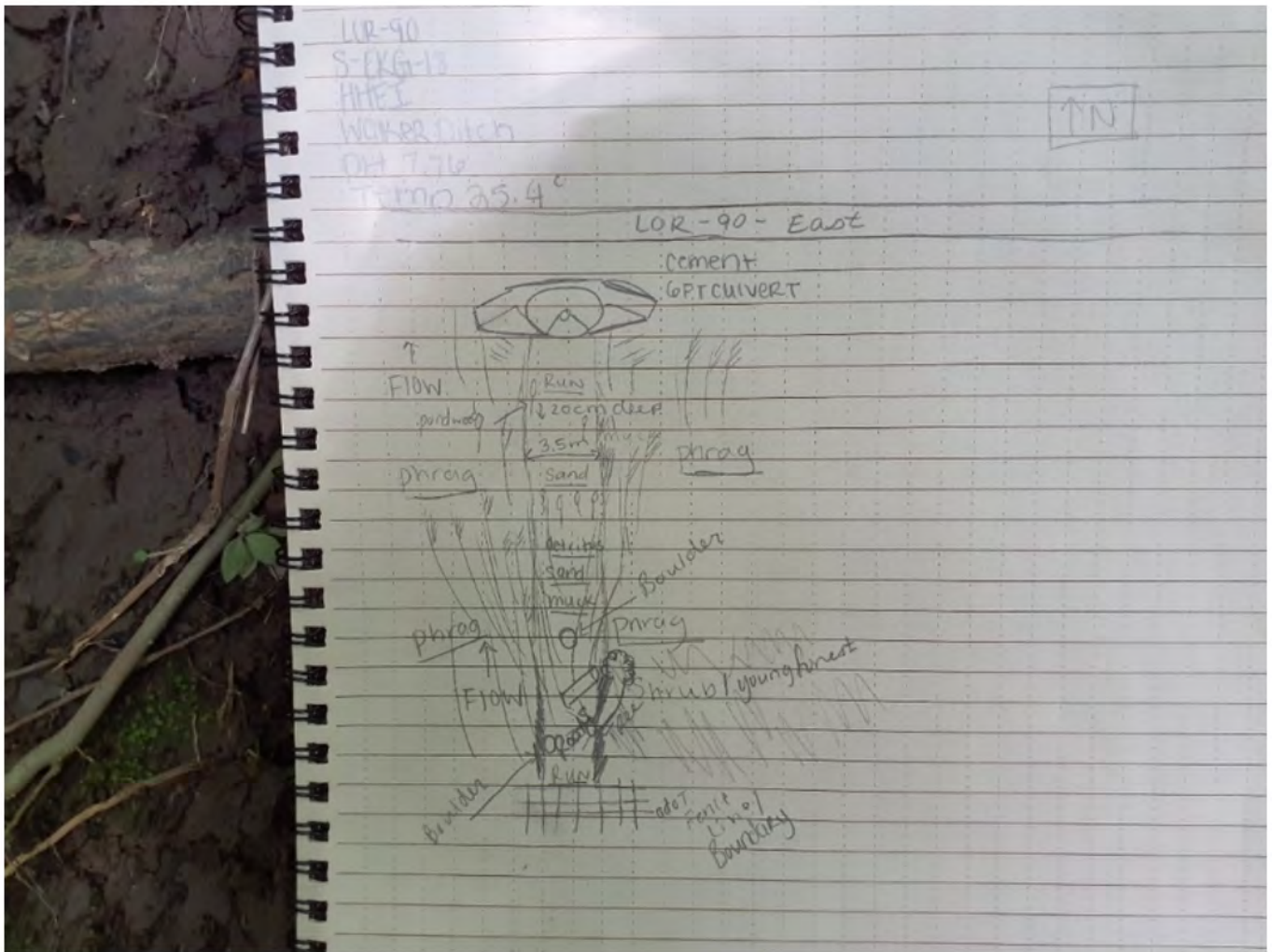
Comments Regarding Biology:

**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

FLOW →

SEE PAGE 3





Stream & Location: LOR-90 ODOT French Creek

RM: 4.5 Date: 08/10/2009

Scorers Full Name & Affiliation: Emma Given, TRC Companies

River Code: Stream 19

STORET #:

Lat./ Long.: 41.4609466 / -82.0569574

Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

Substrate assessment form with categories: BEST TYPES, OTHER TYPES, ORIGIN, QUALITY. Includes checkboxes for BLDR/SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, HARDPAN, DETRITUS, MUCK, SILT, ARTIFICIAL, LIMESTONE, TILLS, WETLANDS, SANDSTONE, RIP/RAP, LACUSTURINE, SHALE, COAL FINES, HEAVY, MODERATE, NORMAL, FREE, EXTENSIVE, MODERATE, NORMAL, NONE.

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.

AMOUNT Check ONE (Or 2 & average)

Instream Cover assessment form with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS > 70cm, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS, EXTENSIVE, MODERATE, SPARSE, NEARLY ABSENT.

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment form with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes for HIGH, MODERATE, LOW, NONE, EXCELLENT, GOOD, FAIR, POOR, NONE, RECOVERED, RECOVERING, RECENT OR NO RECOVERY, HIGH, MODERATE, LOW.

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

Bank Erosion and Riparian Zone assessment form with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment form with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY, Recreation Potential (Primary/Secondary Contact).

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 / Run Quality assessment form with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS.

6] GRADIENT ( 11.4 ft/mi) DRAINAGE AREA ( 26.2 mi^2) VERY LOW - LOW, MODERATE, HIGH - VERY HIGH, %POOL, %GLIDE, %RUN, %RIFFLE, Gradient Maximum 10.

# AJ SAMPLED REACH

Check ALL that apply

METHOD	STAGE
<input type="checkbox"/> BOAT	1st -sample pass- 2nd
<input checked="" type="checkbox"/> WADE	<input type="checkbox"/> HIGH
<input type="checkbox"/> L. LINE	<input type="checkbox"/> UP
<input type="checkbox"/> OTHER	<input type="checkbox"/> NORMAL <input checked="" type="checkbox"/>
	<input type="checkbox"/> LOW
	<input type="checkbox"/> DRY

DISTANCE	CLARITY
<input type="checkbox"/> 0.5 Km	1st --sample pass-- 2nd
<input type="checkbox"/> 0.2 Km	<input type="checkbox"/> < 20 cm
<input type="checkbox"/> 0.15 Km	<input checked="" type="checkbox"/> 20-<40 cm
<input type="checkbox"/> 0.12 Km	<input type="checkbox"/> 40-70 cm
<input type="checkbox"/> OTHER	<input type="checkbox"/> > 70 cm/ CTB
.06 Km	<input type="checkbox"/> SECCHI DEPTH
meters	

CANOPY	1st pass	2nd pass
<input checked="" type="checkbox"/> > 85%- OPEN	_____ cm	_____ cm
<input type="checkbox"/> 55%-<85%		
<input type="checkbox"/> 30%-<55%		
<input type="checkbox"/> 10%-<30%		
<input type="checkbox"/> <10%- CLOSED		

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

This portion of the channel flows under I-90 E and W, these two large bridges have cement sides which make this portion of the stream atypical.

Rated Good

pH: 8.55, Temp 22.3 C

## BJ AESTHETICS

<input checked="" type="checkbox"/> NUISANCE ALGAE
<input type="checkbox"/> INVASIVE MACROPHYTES
<input type="checkbox"/> EXCESS TURBIDITY
<input type="checkbox"/> DISCOLORATION
<input type="checkbox"/> FOAM / SCUM
<input type="checkbox"/> OIL SHEEN
<input checked="" type="checkbox"/> TRASH / LITTER
<input type="checkbox"/> NUISANCE ODOR
<input type="checkbox"/> SLUDGE DEPOSITS
<input type="checkbox"/> CSOs/SSOs/OUTFALLS

## DJ 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

## EJ 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 H <sub>2</sub> O / TILE / H <sub>2</sub> O TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

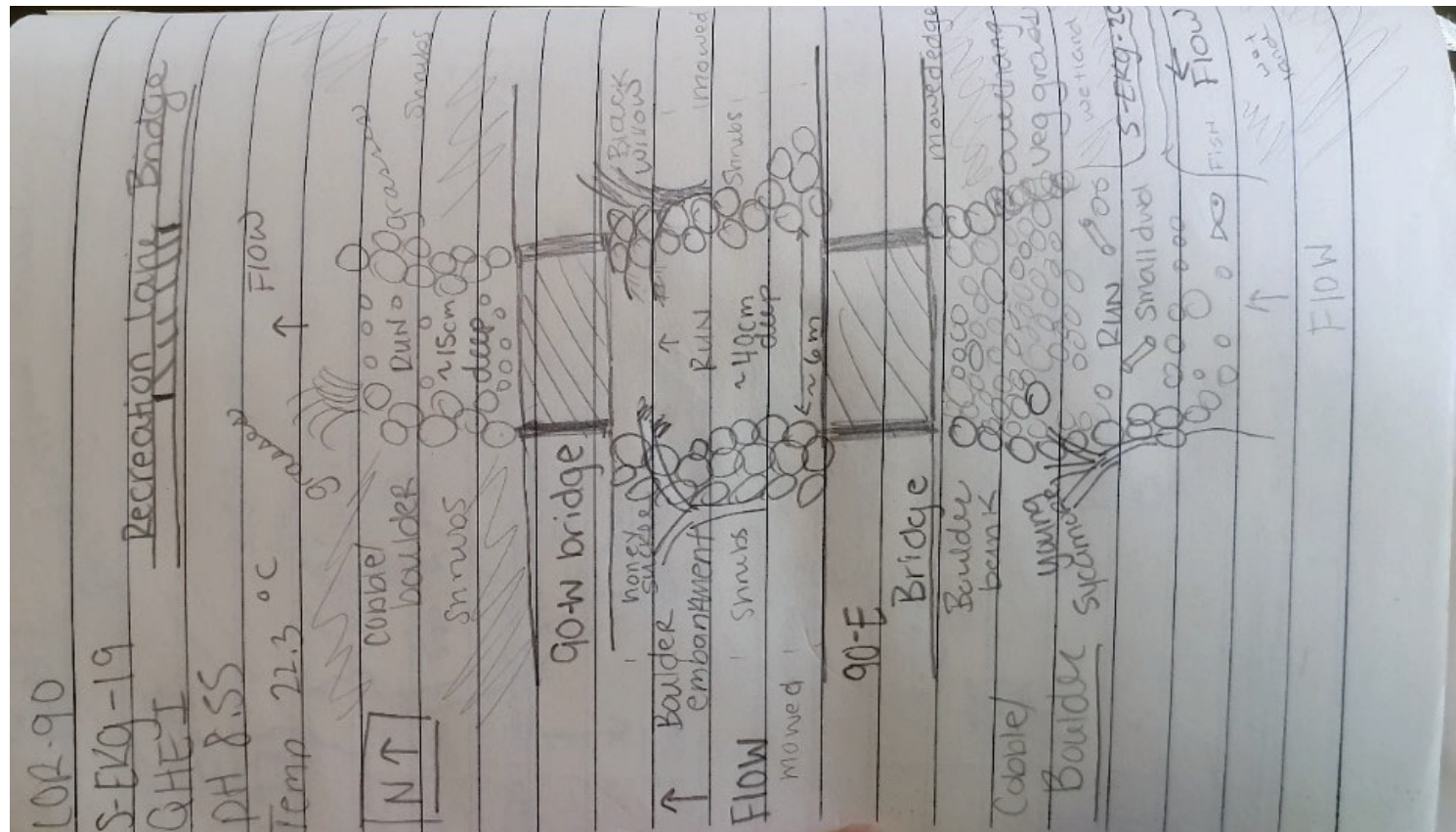
## FJ MEASUREMENTS

$\bar{x}$ width 6.1 m
$\bar{x}$ depth 0.41 m
max. depth
$\bar{x}$ bankfull width
bankfull $\bar{x}$ depth
W/D ratio 14.87
bankfull max. depth
floodprone x <sup>2</sup> width
entrench. ratio

Legacy Tree:

CJ RECREATION	AREA	DEPTH
POOL: <input type="checkbox"/> >100ft <sup>2</sup> <input type="checkbox"/> >3ft		

## Stream Drawing:



SITE NAME/LOCATION ODOT - LOP-90-10.76 (PID 107714), north of French Creek and east of I-90 eastbound lanes  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.005  
 LENGTH OF STREAM REACH (ft) 65 LAT. 41.461032 LONG. -82.056877 RIVER MILE       
 DATE 2023-08-10 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDG SLABS [16 pts]	<u>    </u>	<input type="checkbox"/> SILT [3 pts]	<u>    </u>
<input checked="" type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>65</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>    </u>
<input type="checkbox"/> BEDROCK [16 pts]	<u>    </u>	<input checked="" type="checkbox"/> FINE DETRITUS [3 pts]	<u>25</u>
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>    </u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>    </u>
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>    </u>	<input type="checkbox"/> MUCK [0 pts]	<u>10</u>
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>    </u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>    </u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 65 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 19

TOTAL NUMBER OF SUBSTRATE TYPES: 3

**HHEI Metric Points**

Substrate Max = 40

22

A + B

Pool Depth Max = 30

15

Bankfull Width Max=30

5

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS     

MAXIMUM POOL DEPTH (centimeters): 6

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS     

AVERAGE BANKFULL WIDTH (meters): 0.8

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

**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 type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: Avon

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-10 Quantity: .18 in

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .60

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 21.9 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.08 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/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

FLOW →

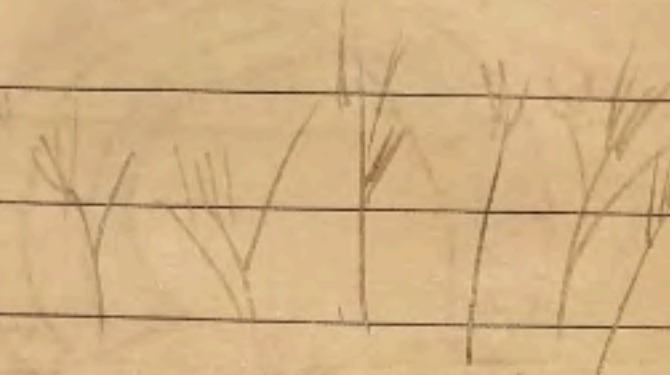
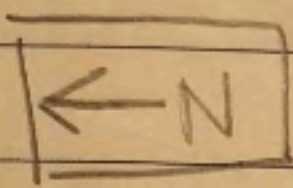
SEE PAGE 3

S-EKG-20

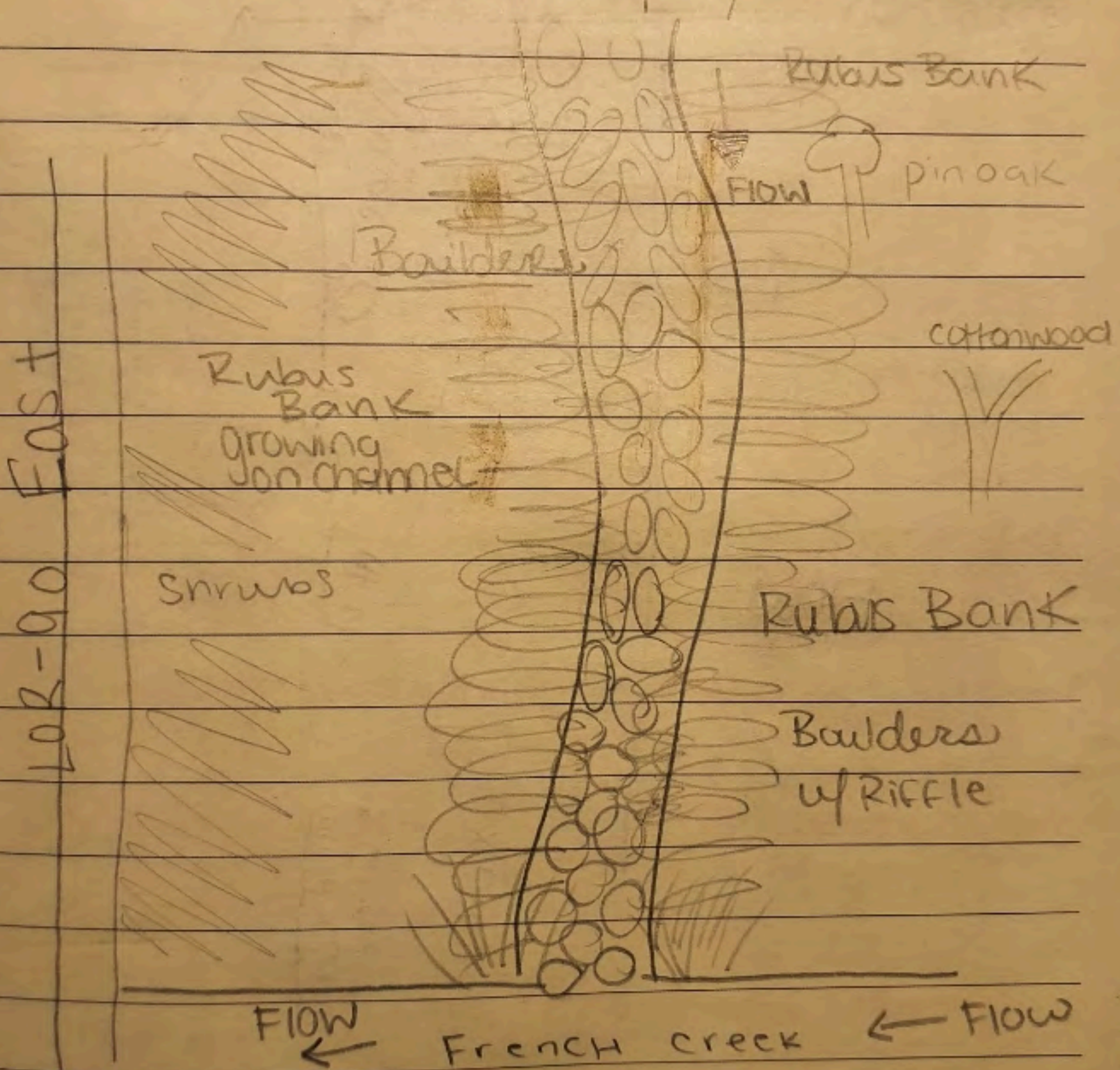
HHEI

LOR-90

8.10.23



Pinrag stand



EAST

LOR-90

RUBUS BANK

growing Jon chernel

shrubs

RUBUS BANK

FLOW

pin oak

cottonwood

RUBUS BANK

Boulders

w/ RIFFLE

FLOW

French creek

FLOW

S-EKG-19

SITE NAME/LOCATION ODOT - LOR-90-10.76 (PID 107714), west and east of I-90 and railroad tracks  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.01  
 LENGTH OF STREAM REACH (ft) 79 LAT. 41.452678 LONG. -82.067484 RIVER MILE       
 DATE 2023-08-10 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	—	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pts]	35
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	—	<input type="checkbox"/> <input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	35
<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 pts]	—
<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	—	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	30
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	—	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	—

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) (B)

**SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:** 6      **TOTAL NUMBER OF SUBSTRATE TYPES:** 3

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

<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 [5 pts]
<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS           **MAXIMUM POOL DEPTH (centimeters):** 12

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements)** (Check *ONLY* one box):

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS           **AVERAGE BANKFULL WIDTH (meters):** 1.6

**HHEI Metric Points**

Substrate Max = 40

9

A + B

---

Pool Depth Max = 30

25

---

Bankfull Width Max=30

20

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

<u>RIPARIAN WIDTH</u>		<u>FLOODPLAIN QUALITY</u>	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)	Wide >10m	(Most Predominant per Bank)	Mature Forest, Wetland
	Moderate 5-10m		Immature Forest, Shrub or Old Field
	Narrow <5m		Residential, Park, New Field
	None		Fenced Pasture
			Conservation Tillage
			Urban or Industrial
			Open Pasture, Row Crop
			Mining or Construction

**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 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 ft/100 ft)     Flat to Moderate     Moderate (2 ft/100 ft)     Moderate to Severe     Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page:    NRCS Soil Map Stream Order     
County: Lorain Township / City: Avon; Sheffield Village

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-10 Quantity: .18

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .20

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results):   

Field Measures: Temp (°C) 24.9 Dissolved Oxygen (mg/l)    pH (S.U.) 7.88 Conductivity (µmhos/cm)   

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N)    Species observed (if known):   

Frogs or Tadpoles Observed? (Y/N)    Species observed (if known):   

Salamanders Observed? (Y/N)    Species observed (if known):   

Aquatic Macroinvertebrates Observed? (Y/N)    Species observed (if known):   

Comments Regarding Biology:

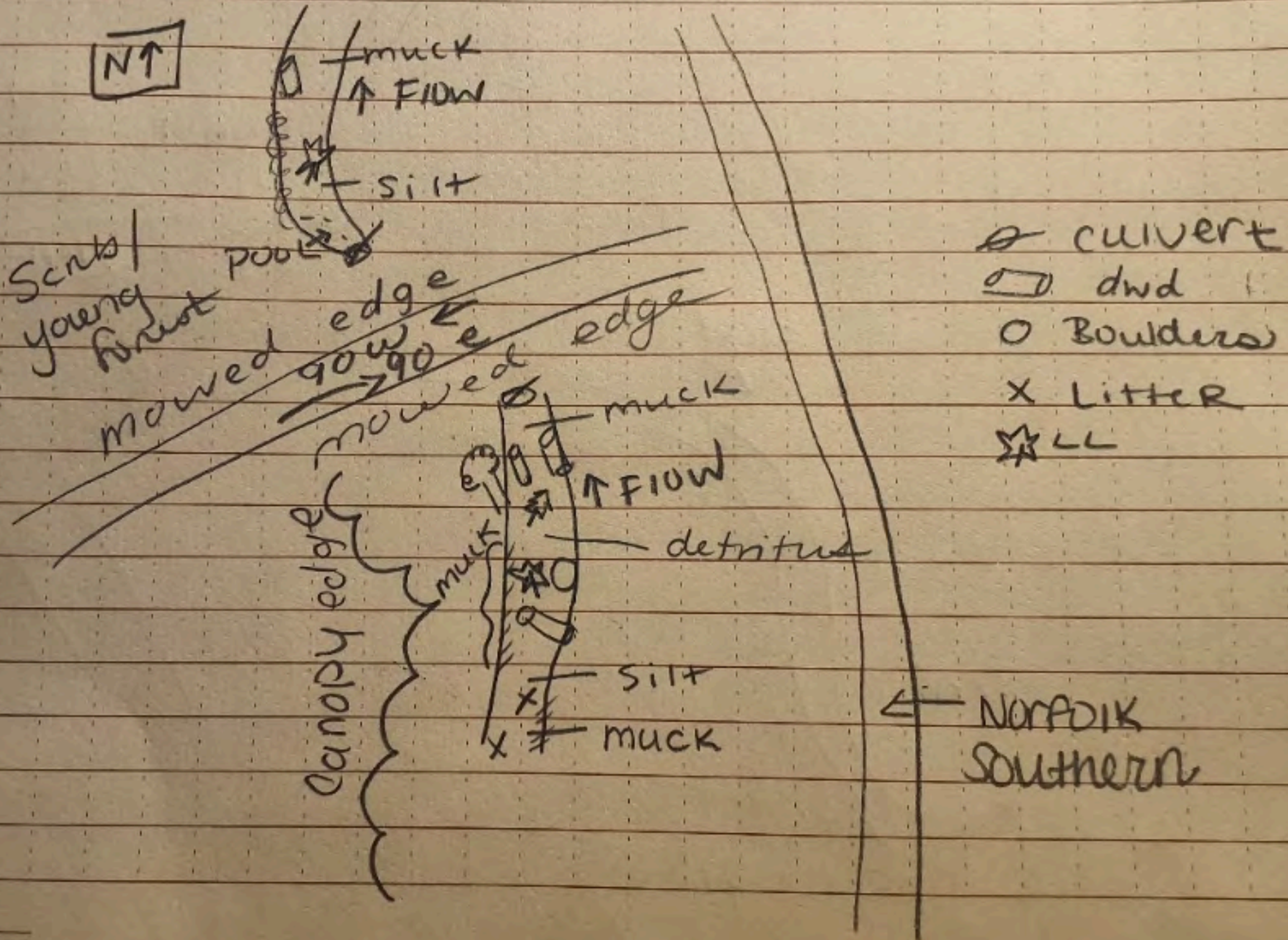
**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

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

FLOW →

SEE PAGE 3

LOR-90  
Stream 21



Scale: 1 square = \_\_\_\_\_



Stream & Location: Kline Ditch near LOR-90 East bound, southwest of Colorado Ave RM: 0.75 Date: 8/10/2023

Scorers Full Name & Affiliation: Emma Given, TRC Companies

River Code: Stream 22 STORET #: Lat./ Long.: 41.4562 / -82.0632 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average). BEST TYPES: BLDR /SLABS [10], BOULDER [9], COBBLE [8], GRAVEL [7], SAND [6], BEDROCK [5]. OTHER TYPES: HARDPAN [4], DETRITUS [3], MUCK [2], SILT [2], ARTIFICIAL [0]. ORIGIN: LIMESTONE [1], TILLS [1], WETLANDS [0], HARDPAN [0], SANDSTONE [0], RIP/RAP [0], LACUSTURINE [0], SHALE [-1], COAL FINES [-2]. QUALITY: HEAVY [-2], MODERATE [-1], NORMAL [0], FREE [1], EXTENSIVE [-2], MODERATE [-1], NORMAL [0], NONE [1].

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. AMOUNT: EXTENSIVE >75% [11], MODERATE 25-75% [7], SPARSE 5-<25% [3], NEARLY ABSENT <5% [1].

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average). SINUOSITY: HIGH [4], MODERATE [3], LOW [2], NONE [1]. DEVELOPMENT: EXCELLENT [7], GOOD [5], FAIR [3], POOR [1]. CHANNELIZATION: NONE [6], RECOVERED [4], RECOVERING [3], RECENT OR NO RECOVERY [1]. STABILITY: HIGH [3], MODERATE [2], LOW [1].

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average). RIPARIAN WIDTH: WIDE > 50m [4], MODERATE 10-50m [3], NARROW 5-10m [2], VERY NARROW < 5m [1], NONE [0]. FLOOD PLAIN QUALITY: FOREST, SWAMP [3], SHRUB OR OLD FIELD [2], RESIDENTIAL, PARK, NEW FIELD [1], FENCED PASTURE [1], OPEN PASTURE, ROWCROP [0]. CONSERVATION TILLAGE [1], URBAN OR INDUSTRIAL [0], MINING / CONSTRUCTION [0].

5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH: > 1m [6], 0.7-<1m [4], 0.4-<0.7m [2], 0.2-<0.4m [1], < 0.2m [0]. CHANNEL WIDTH: POOL WIDTH > RIFFLE WIDTH [2], POOL WIDTH = RIFFLE WIDTH [1], POOL WIDTH < RIFFLE WIDTH [0]. CURRENT VELOCITY: TORRENTIAL [-1], SLOW [1], VERY FAST [1], INTERSTITIAL [-1], FAST [1], INTERMITTENT [-2], MODERATE [1], EDDIES [1]. Recreation Potential: Primary Contact, Secondary Contact.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). RIFFLE DEPTH: BEST AREAS > 10cm [2], BEST AREAS 5-10cm [1], BEST AREAS < 5cm [metric=0]. RUN DEPTH: MAXIMUM > 50cm [2], MAXIMUM < 50cm [1]. RIFFLE / RUN SUBSTRATE: STABLE (e.g., Cobble, Boulder) [2], MOD. STABLE (e.g., Large Gravel) [1], UNSTABLE (e.g., Fine Gravel, Sand) [0]. RIFFLE / RUN EMBEDDEDNESS: NONE [2], LOW [1], MODERATE [0], EXTENSIVE [-1].

6] GRADIENT ( 20.4 ft/mi) DRAINAGE AREA ( 2.79 mi^2) VERY LOW - LOW [2-4], MODERATE [6-10], HIGH - VERY HIGH [10-6]. %POOL: 20 %GLIDE: %RUN: 80 %RIFFLE: Gradient Maximum 10

# AJ SAMPLED REACH

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- STAGE**
- 1st -sample pass- 2nd
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

- DISTANCE**
- 0.5 Km
  - 0.2 Km
  - 0.15 Km
  - 0.12 Km
  - OTHER
- 0.06 meters
- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH

- CANOPY**
- 1st \_\_\_\_\_ cm
- 2nd \_\_\_\_\_ cm
- > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.  
pH 8.27, Temp 26.1 C

Rated fair

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- BJ AESTHETICS**
- NUISANCE ALGAE
  - INVASIVE MACROPHYTES
  - EXCESS TURBIDITY
  - DISCOLORATION
  - FOAM / SCUM
  - OIL SHEEN
  - TRASH / LITTER
  - NUISANCE ODOR
  - SLUDGE DEPOSITS
  - CSOs/SSOs/OUTFALLS

- DJ 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

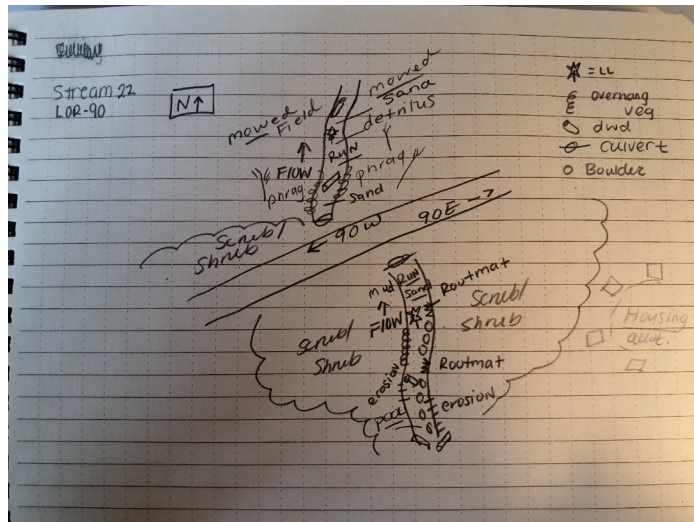
Circle some & COMMENT

- EJ 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 H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
  - ACID / MINE / QUARRY / FLOW
  - NATURAL / WETLAND / STAGNANT
  - PARK / GOLF / LAWN / HOME
  - ATMOSPHERE / DATA PAUCITY

- FJ MEASUREMENTS**
- $\bar{x}$  width 2.3 m
  - $\bar{x}$  depth
  - max. depth 0.45 m
  - $\bar{x}$  bankfull width
  - bankfull  $\bar{x}$  depth
  - W/D ratio
  - bankfull max. depth
  - floodprone  $x^2$  width
  - entrench. ratio
  - Legacy Tree:

- CJ RECREATION**
- AREA DEPTH
- POOL:  >100ft<sup>2</sup>  >3ft

## Stream Drawing:



Stream & Location: Jungbluth Ditch at LOR-90 crossing

RM: 2.5

Date: 8/14/2023

Scorers Full Name & Affiliation: Emma Given, TRC Companies

River Code: Stream 23

STORET #:

Lat./ Long.: 41.437426 / -82.07952

Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

Substrate assessment form with categories: BEST TYPES, OTHER TYPES, ORIGIN, QUALITY. Includes checkboxes for BLDR/SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, HARDPAN, DETRITUS, MUCK, SILT, ARTIFICIAL, LIMESTONE, TILLS, WETLANDS, SANDSTONE, RIP/RAP, LACUSTURINE, SHALE, COAL FINES, HEAVY, MODERATE, NORMAL, EXTENSIVE, FREE, etc. Includes a score box for 13.

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.

AMOUNT

Check ONE (Or 2 & average)

Instream Cover assessment form with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS > 70cm, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS, EXTENSIVE, MODERATE, SPARSE, NEARLY ABSENT. Includes a score box for 13.

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment form with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes for HIGH, MODERATE, LOW, NONE, EXCELLENT, GOOD, FAIR, POOR, NONE, RECOVERED, RECOVERING, RECENT OR NO RECOVERY, HIGH, MODERATE, LOW. Includes a score box for 8.

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

Bank Erosion and Riparian Zone assessment form with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION. Includes checkboxes for NONE/LITTLE, MODERATE, HEAVY/SEVERE, WIDE, MODERATE, NARROW, VERY NARROW, NONE, FOREST, SWAMP, SHRUB OR OLD FIELD, RESIDENTIAL, PARK, NEW FIELD, FENCED PASTURE, OPEN PASTURE, ROWCROP. Includes a score box for 7.5.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH

CHANNEL WIDTH

CURRENT VELOCITY

Check ONE (ONLY!)

Check ONE (Or 2 & average)

Check ALL that apply

Pool/Glide and Riffle/Run Quality assessment form with checkboxes for MAXIMUM DEPTH (> 1m, 0.7-1m, 0.4-0.7m, 0.2-0.4m, < 0.2m), CHANNEL WIDTH (POOL WIDTH > RIFFLE WIDTH, POOL WIDTH = RIFFLE WIDTH, POOL WIDTH < RIFFLE WIDTH), CURRENT VELOCITY (TORRENTIAL, VERY FAST, FAST, MODERATE, SLOW, INTERSTITIAL, INTERMITTENT, EDDIES). Includes a score box for 3.

Recreation Potential Primary Contact Secondary Contact (circle one and comment on back)

Comments Runs under highway - poor recreation potential

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/Run Quality assessment form with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes for BEST AREAS > 10cm, 5-10cm, < 5cm, MAXIMUM > 50cm, < 50cm, STABLE, MOD. STABLE, UNSTABLE, NONE, LOW, MODERATE, EXTENSIVE. Includes a score box for 0.

6] GRADIENT (19.1 ft/mi) DRAINAGE AREA (3.36 mi^2)

Gradient assessment form with checkboxes for VERY LOW - LOW, MODERATE, HIGH - VERY HIGH.

Pool/Glide and Riffle/Run Quality assessment form with input fields for %POOL, %GLIDE, %RUN, %RIFFLE.

Gradient assessment form with a score box for 10.

# AJ SAMPLED REACH

Check ALL that apply

- METHOD**
- BOAT  STAGE
- WADE  HIGH
- L. LINE  UP
- OTHER  NORMAL
- LOW
- DRY

- DISTANCE**
- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER
- .06 meters

- CANOPY**
- > 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

**CJ RECREATION** AREA DEPTH

POOL:  >100ft<sup>2</sup>  >3ft

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.  
pH 8.21, temp 22.8 - reach is typical. No recreation possibilities. Culvert for stream to run under highway creates artificial bank. Scored good (headwater stream) - 3rd order at sample location.

- BJ AESTHETICS**
- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

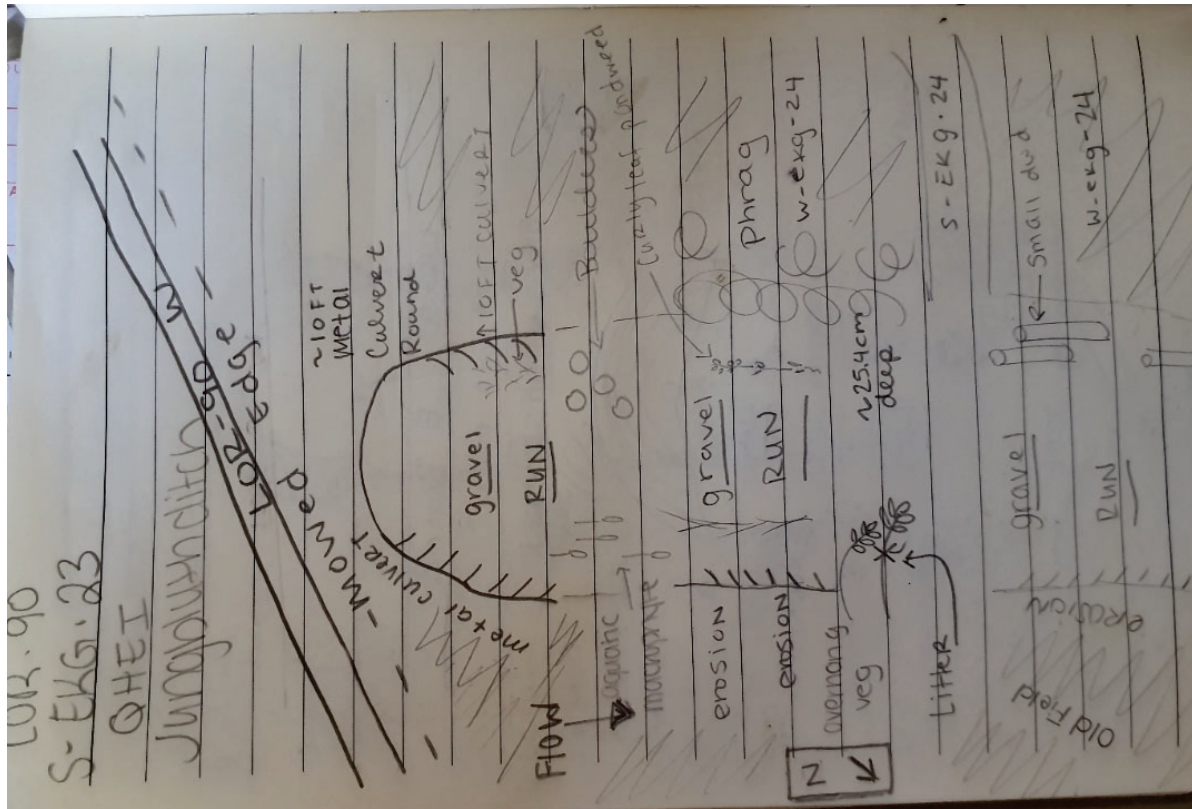
- DJ MAINTENANCE**
- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMOURED / SLUMPS
- ISLANDS / SCOURED
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

- EJ 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 H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

- FJ MEASUREMENTS**
- $\bar{x}$  width 3m
- $\bar{x}$  depth 0.2 m
- max. depth
- $\bar{x}$  bankfull width
- bankfull  $\bar{x}$  depth
- W/D ratio 15
- bankfull max. depth
- floodprone x<sup>2</sup> width
- entrench. ratio
- Legacy Tree:

## Stream Drawing:



SITE NAME/LOCATION ODOT - LOR-90-10.76 (PID 107714), south of Jungbluth Ditch (S-EKG-23) and west of I-90 westbound lanes  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.01  
 LENGTH OF STREAM REACH (ft) 200 LAT. 41.437227 LONG. -82.080646 RIVER MILE       
 DATE 2023-08-14 SCORER EKG 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> Bldr Slabs [16 pts]	<u>    </u>	<input type="checkbox"/> SILT [3 pts]	<u>10</u>
<input type="checkbox"/> Boulder (>256 mm) [16 pts]	<u>10</u>	<input type="checkbox"/> Leaf Pack/Woody Debris [3 pts]	<u>5</u>
<input type="checkbox"/> Bedrock [16 pts]	<u>    </u>	<input type="checkbox"/> Fine Detritus [3 pts]	<u>10</u>
<input type="checkbox"/> Cobble (65-256 mm) [12 pts]	<u>    </u>	<input checked="" type="checkbox"/> Clay or Hardpan [0 pts]	<u>25</u>
<input type="checkbox"/> Gravel (2-64 mm) [9 pts]	<u>15</u>	<input checked="" type="checkbox"/> Muck [0 pts]	<u>25</u>
<input type="checkbox"/> Sand (<2 mm) [6 pts]	<u>    </u>	<input type="checkbox"/> Artificial [3 pts]	<u>    </u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 10 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 0

TOTAL NUMBER OF SUBSTRATE TYPES: 7

**HHEI Metric Points**

Substrate Max = 40

7

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS     

MAXIMUM POOL DEPTH (centimeters): 18

Pool Depth Max = 30

25

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS     

AVERAGE BANKFULL WIDTH (meters): 1.2

Bankfull Width Max=30

15

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wide >10m	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

**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 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 ft/100 ft)     Flat to Moderate     Moderate (2 ft/100 ft)     Moderate to Severe     Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page:    NRCS Soil Map Stream Order     
County: Lorain Township / City: SHEFFIELD

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-14 Quantity: .01 in

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): no Canopy (% open): 15

Were samples collected for water chemistry? (Y/N): .yes Lab Sample # or ID (attach results):   

Field Measures: Temp (°C) 23.1 Dissolved Oxygen (mg/l)    pH (S.U.) 8.21 Conductivity (µmhos/cm)   

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N)    Species observed (if known):   

Frogs or Tadpoles Observed? (Y/N)    Species observed (if known):   

Salamanders Observed? (Y/N)    Species observed (if known):   

Aquatic Macroinvertebrates Observed? (Y/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

FLOW →

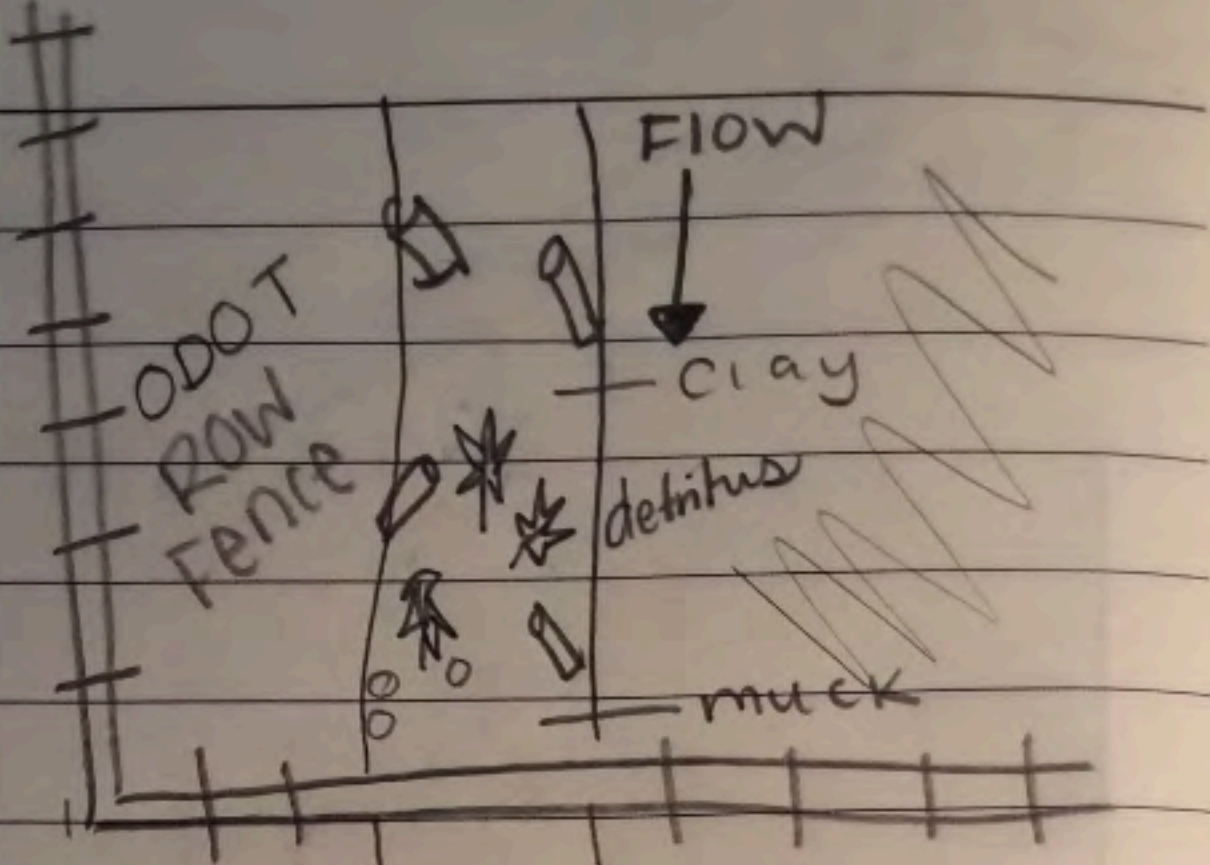
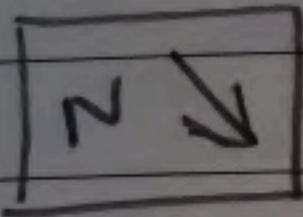
SEE PAGE 3

LOR-90

S-EKG-24

HHEI

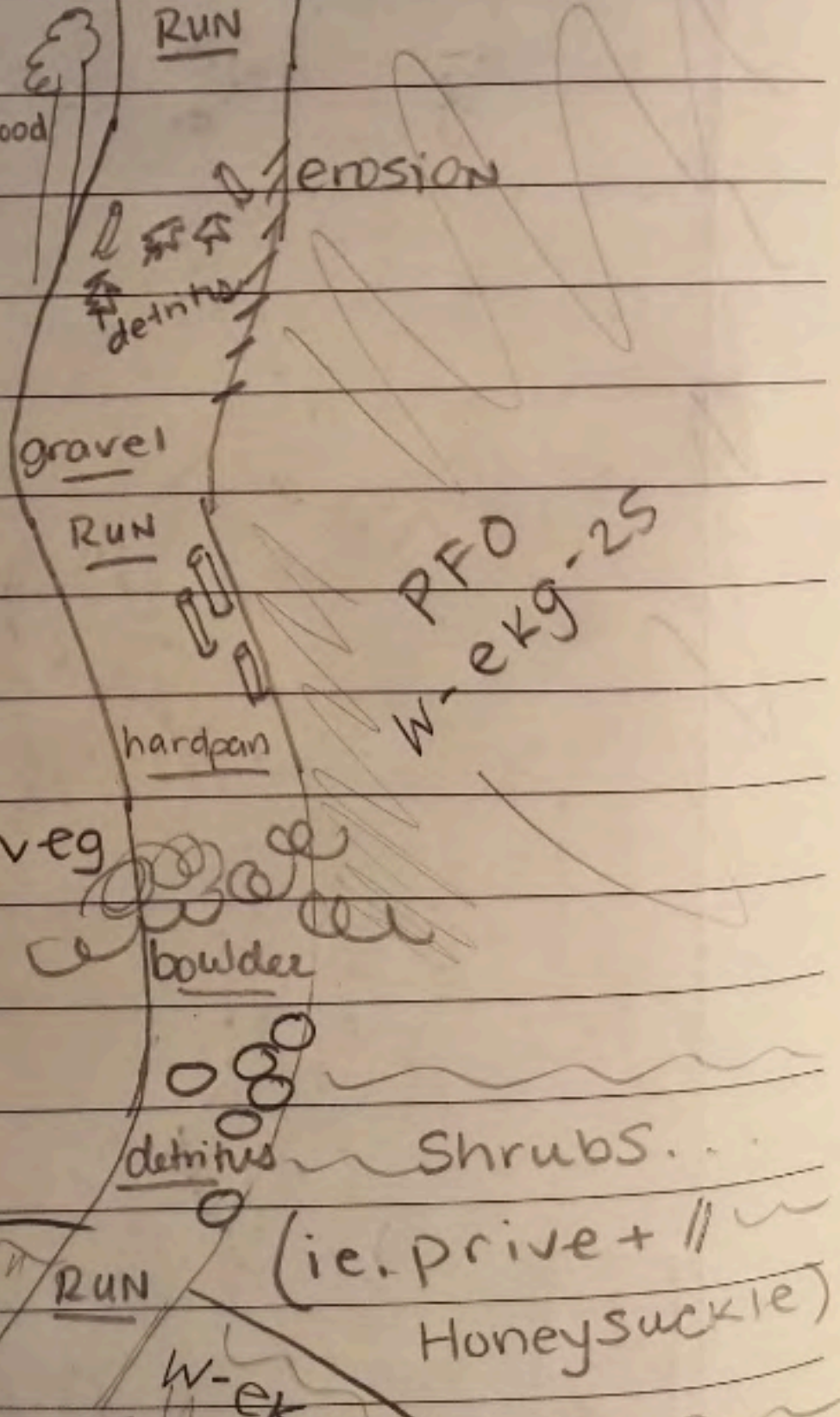
8.15.23



LOR-90 W

Mowed Edge

FLOW



PFO W-ekg-25

S-EKG-23

Jungbluth ditch

W-ekg-24

Flow



SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOR-90-10.76 (PID 107714), north of I-90 westbound lanes and west of State Route 57  
 SITE NUMBER \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.33  
 LENGTH OF STREAM REACH (ft) 200 LAT. 41.406368 LONG. -82.118665 RIVER MILE \_\_\_\_\_  
 DATE 2023-08-02 SCORER EVN 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDG SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pts]	<u>20</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>20</u>
<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 pts]	<u>15</u>
<input checked="" 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>20</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 5 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **15**

TOTAL NUMBER OF SUBSTRATE TYPES: **6**

**HHEI Metric Points**

Substrate Max = 40

**21**

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS \_\_\_\_\_

MAXIMUM POOL DEPTH (centimeters): **2**

Pool Depth Max = 30

**5**

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS \_\_\_\_\_

AVERAGE BANKFULL WIDTH (meters): **3.6**

Bankfull Width Max=30

**25**

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wide >10m	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

**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 type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: NA NRCS Soil Map Stream Order NA  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: .05

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): no Canopy (% open): 5

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 19.7 Dissolved Oxygen (mg/l) \_ pH (S.U.) 7.8 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

Scum on water surface; trash

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

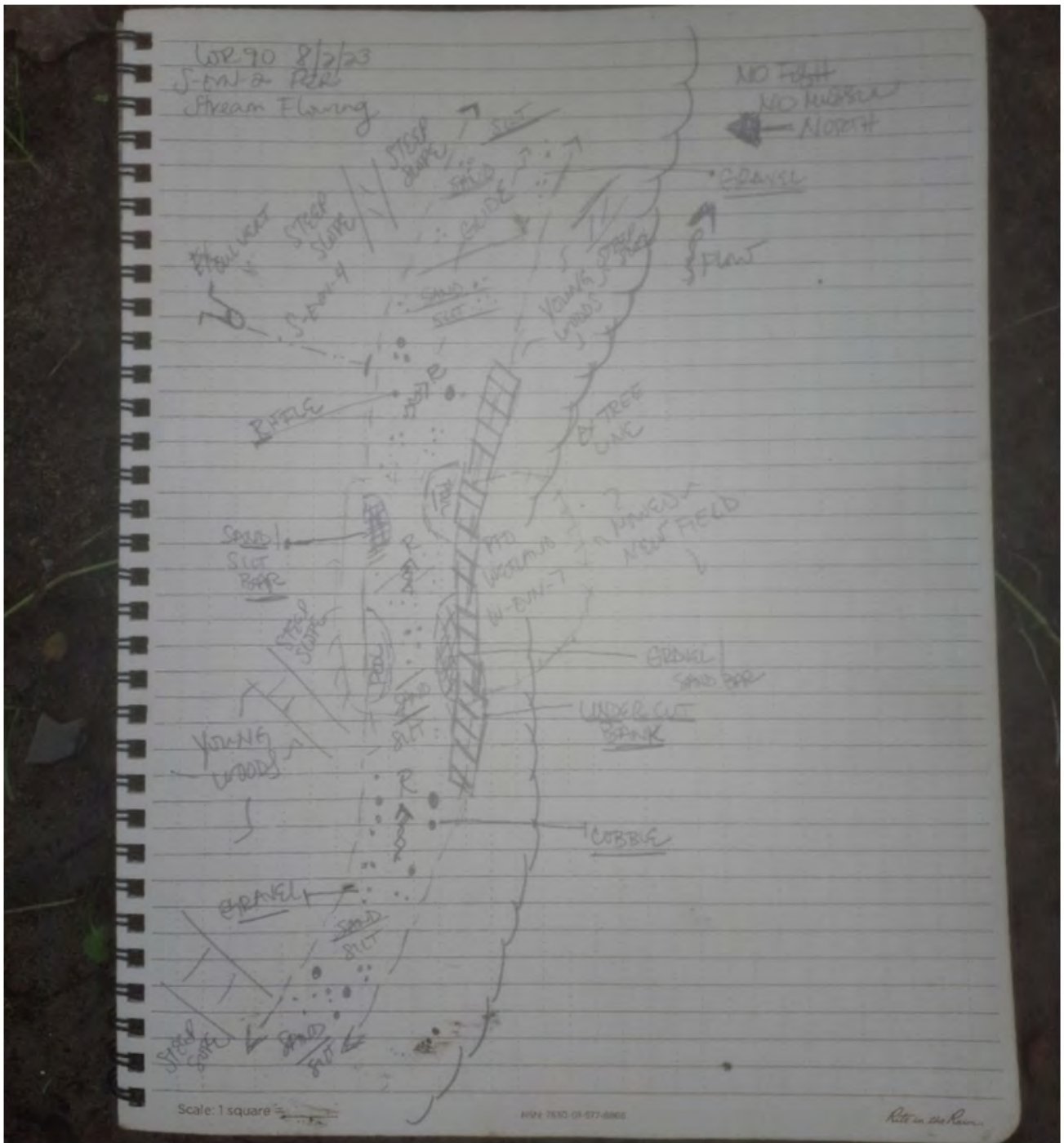
**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

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

**FLOW** →

SEE PAGE 3

SKETCH OF STREAM REACH: STREAM 25



SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOR-90-10.76 (PID 107714), south of Schaden Rd and north I-90 westbound on ramp from SR 57  
 SITE NUMBER \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.00007  
 LENGTH OF STREAM REACH (ft) 153 LAT. 41.406401 LONG. -82.118973 RIVER MILE \_\_\_\_\_  
 DATE 2023-08-04 SCORER EVN 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> Bldr Slabs [16 pts]	___	<input type="checkbox"/> Silt [3 pts]	<u>5</u>
<input type="checkbox"/> Boulder (>256 mm) [16 pts]	___	<input checked="" type="checkbox"/> Leaf Pack/Woody Debris [3 pts]	<u>30</u>
<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 pts]	<u>60</u>
<input type="checkbox"/> Gravel (2-64 mm) [9 pts]	___	<input type="checkbox"/> Muck [0 pts]	___
<input type="checkbox"/> Sand (<2 mm) [6 pts]	<u>5</u>	<input type="checkbox"/> Artificial [3 pts]	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 4

**HHEI Metric Points**  
Substrate Max = 40  
**7**  
A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS \_\_\_\_\_ MAXIMUM POOL DEPTH (centimeters): 0

**Pool Depth**  
Max = 30  
**0**

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements)** (Check ONLY one box):

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS \_\_\_\_\_ AVERAGE BANKFULL WIDTH (meters): 0.4

**Bankfull Width**  
Max=30  
**5**

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

COMMENTS \_\_\_\_\_

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)	L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

**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 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 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: .05

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .2

Were samples collected for water chemistry? (Y/N): .no Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 0 Dissolved Oxygen (mg/l) \_ pH (S.U.) 0 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:  
No water in channel, therefore temp and pH could not be taken

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_  
Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_  
Salamanders Observed? (Y/N) \_ Species observed (if known): \_  
Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_  
Comments Regarding Biology:

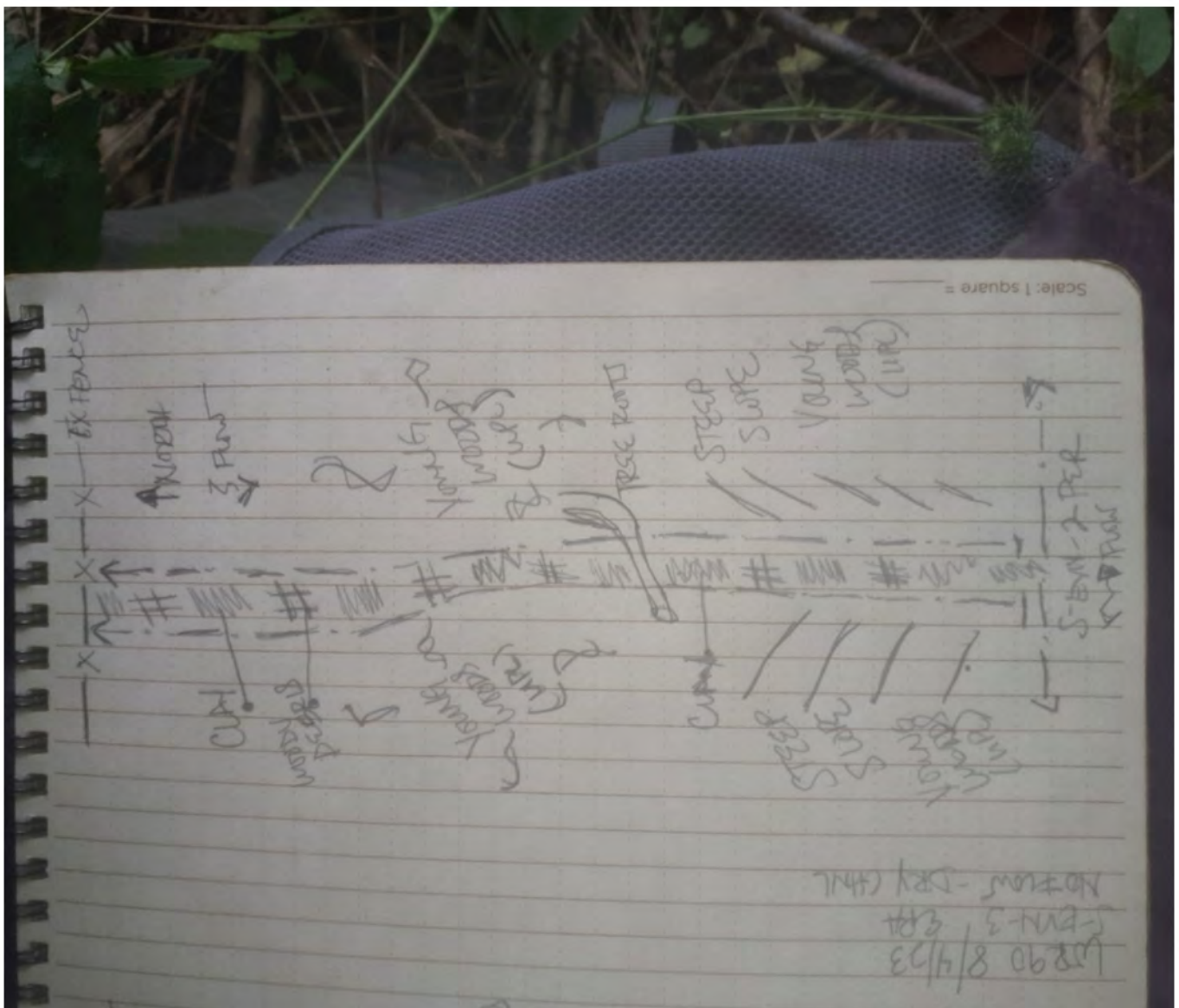
**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

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

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: STREAM 26



SITE NAME/LOCATION ODOT - LOR-90-10.76 (PID 107714), south of Schaden Rd and north of I-90 westbound on ramp from SP 57  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.00003  
 LENGTH OF STREAM REACH (ft) 33 LAT. 41.4059 LONG. -82.119952 RIVER MILE       
 DATE 2023-08-04 SCORER EVN 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	___	<input checked="" type="checkbox"/> SILT [3 pts]	<u>35</u>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	___	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u>
<input type="checkbox"/> BEDROCK [16 pts]	___	<input type="checkbox"/> FINE DETRITUS [3 pts]	___
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>15</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	___
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	___	<input type="checkbox"/> MUCK [0 pts]	___
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<u>40</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 15 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9

TOTAL NUMBER OF SUBSTRATE TYPES: 4

**HHEI Metric Points**

Substrate Max = 40

13

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS     

MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30

0

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements)** (Check ONLY one box):

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS     

AVERAGE BANKFULL WIDTH (meters): 0.8

Bankfull Width Max=30

5

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	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"/>	Conservation Tillage
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

**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 checked="" 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 type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)     Flat to Moderate     Moderate (2 ft/100 ft)     Moderate to Severe     Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: 0.05

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): 10

Were samples collected for water chemistry? (Y/N): .no Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 22.3 Dissolved Oxygen (mg/l) \_ pH (S.U.) 7.89 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

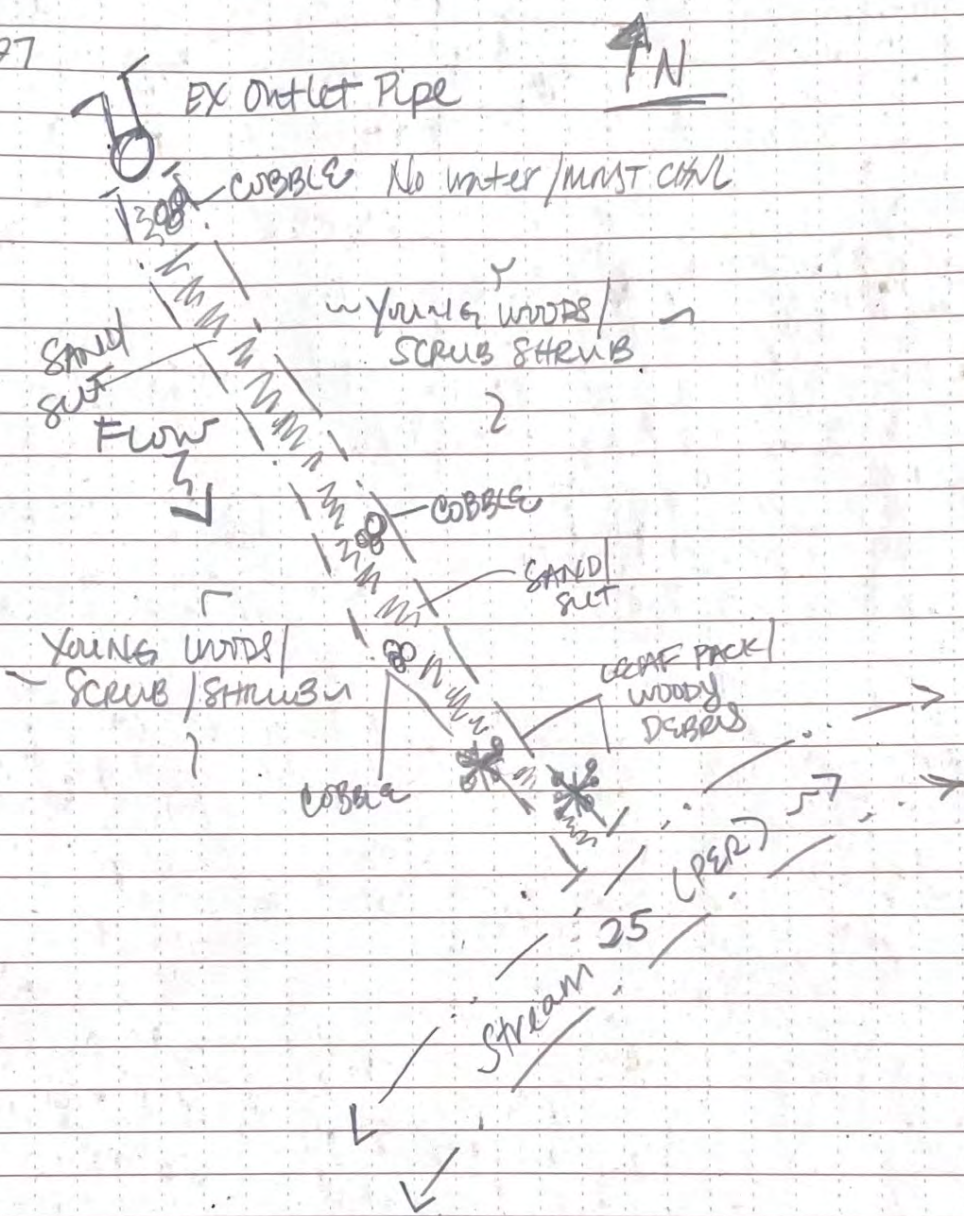
**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

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

FLOW →

SEE PAGE 3

ODOT W090  
8/4/23  
Stream 27





SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOR-90-10.76 (PID 107714), south of Schaden Rd and north of I-90 westbound lanes  
 SITE NUMBER \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.06  
 LENGTH OF STREAM REACH (ft) 59 LAT. 41.405396 LONG. -82.120569 RIVER MILE \_\_\_\_\_  
 DATE 2023-08-04 SCORER EVN 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> Bldr Slabs [16 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pts]	<u>30</u>
<input type="checkbox"/> Boulder (>256 mm) [16 pts]	_____	<input type="checkbox"/> Leaf Pack/Woody Debris [3 pts]	<u>20</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 pts]	_____
<input type="checkbox"/> Gravel (2-64 mm) [9 pts]	<u>10</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]	_____

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **9** TOTAL NUMBER OF SUBSTRATE TYPES: **4**

**HHEI Metric Points**  
Substrate Max = 40  
**13**  
A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS \_\_\_\_\_ MAXIMUM POOL DEPTH (centimeters): **0**

Pool Depth Max = 30  
**0**

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS \_\_\_\_\_ AVERAGE BANKFULL WIDTH (meters): **1.2**

Bankfull Width Max=30  
**15**

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide >10m		Mature Forest, Wetland	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>
Moderate 5-10m		Residential, Park, New Field	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>
Narrow <5m			<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
None			<input type="checkbox"/>
COMMENTS _____			<input type="checkbox"/>

**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 checked="" 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 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: 0.05 inches

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): no Canopy (% open): 40

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 21.5 Dissolved Oxygen (mg/l) \_ pH (S.U.) 7.86 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

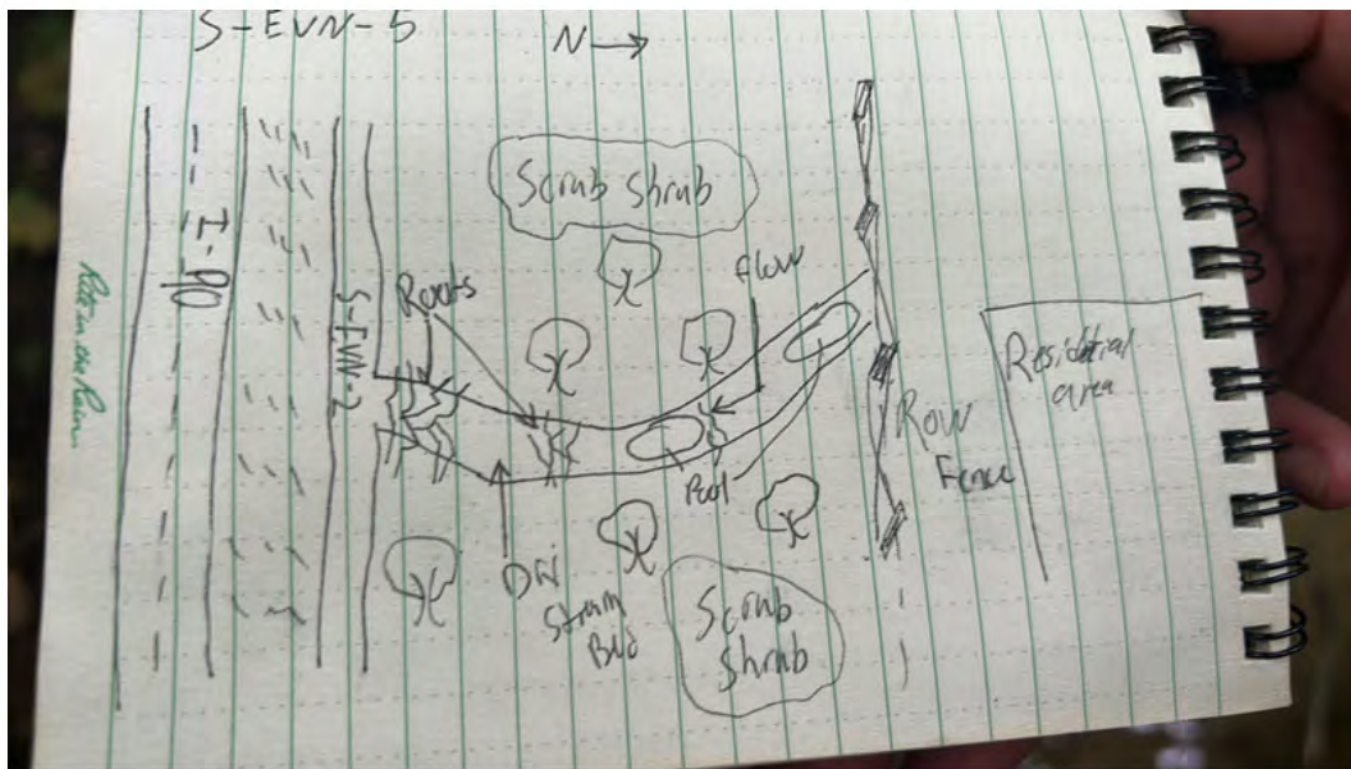
**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

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

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: STREAM 28



SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOR-90-10.76 (PID 107714), south of Liberty Ct and north of I-90 westbound lanes  
 SITE NUMBER \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.002  
 LENGTH OF STREAM REACH (ft) 40 LAT. 41.404495 LONG. -82.12734 RIVER MILE \_\_\_\_\_  
 DATE 2023-08-04 SCORER EVN 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

<b>1. SUBSTRATE: Estimate percent of every type of substrate present.</b> 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.				<b>HHEI Metric Points</b>  Substrate Max = 40  <div style="border: 1px solid black; padding: 5px; font-size: 24px; font-weight: bold;">21</div> A + B
<b>TYPE</b>	<b>PERCENT</b>	<b>TYPE</b>	<b>PERCENT</b>	
<input type="checkbox"/> Bldr Slabs [16 pts]	_____	<input type="checkbox"/> Silt [3 pts]	<u>15</u>	
<input type="checkbox"/> Boulder (>256 mm) [16 pts]	_____	<input type="checkbox"/> Leaf Pack/Woody Debris [3 pts]	<u>5</u>	
<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 pts]	<u>20</u>	
<input checked="" type="checkbox"/> Gravel (2-64 mm) [9 pts]	<u>30</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]	_____	
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>5</u> (A)		(B)		
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: <div style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">15</div>		TOTAL NUMBER OF SUBSTRATE TYPES: <div style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">6</div>		
<b>2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.</b> Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):				<b>Pool Depth</b> Max = 30  <div style="border: 1px solid black; padding: 5px; font-size: 24px; font-weight: bold;">5</div>
<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 [5 pts]		
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]		<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]		
COMMENTS _____		MAXIMUM POOL DEPTH (centimeters): <div style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">2</div>		
<b>3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):</b>				<b>Bankfull Width</b> Max=30  <div style="border: 1px solid black; padding: 5px; font-size: 24px; font-weight: bold;">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 (> 9' 7" - 4' 8") [20 pts]				
COMMENTS _____		AVERAGE BANKFULL WIDTH (meters): <div style="border: 1px solid black; padding: 2px 10px; font-weight: bold;">0.3</div>		

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

<u>RIPARIAN WIDTH</u>		<u>FLOODPLAIN QUALITY</u>		
L	R	L	R	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction
None				
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**

Flat (0.5 ft/100 ft)  
  Flat to Moderate  
  Moderate (2 ft/100 ft)  
  Moderate to Severe  
  Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Lorain NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-01 Quantity: .05

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): .2

Were samples collected for water chemistry? (Y/N): .no Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 22.5 Dissolved Oxygen (mg/l) \_ pH (S.U.) 7.63 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

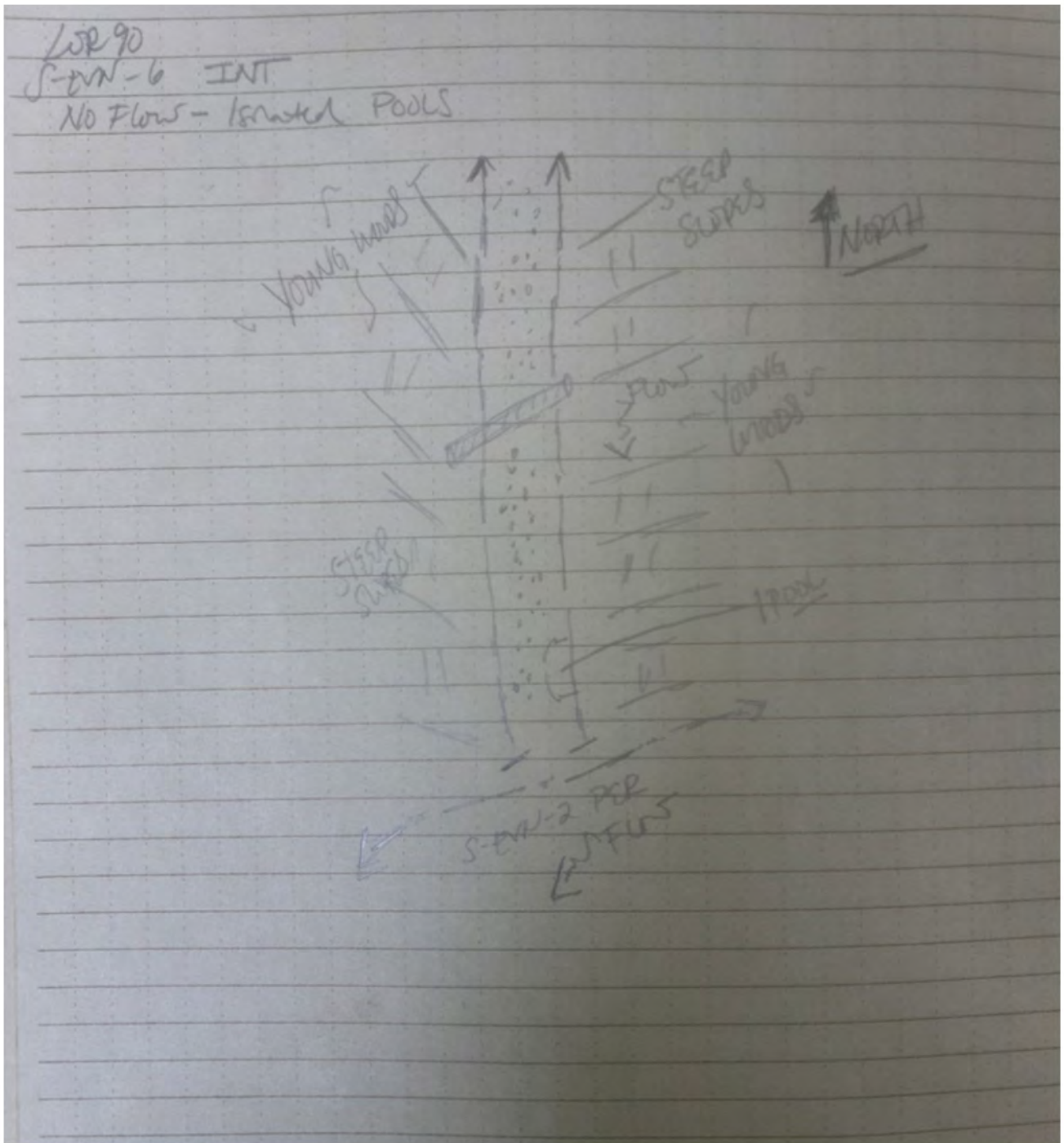
**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

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

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: STREAM 29



SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOR-90-10.76 (PID 107714), north of I-90 westbound lanes, west of Lake Rd  
 SITE NUMBER \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.045  
 LENGTH OF STREAM REACH (ft) 200 LAT. 41.404102 LONG. -82.133094 RIVER MILE \_\_\_\_\_  
 DATE 2023-08-07 SCORER EVN 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	_____	<input type="checkbox"/> SILT [3 pts]	_____
<input checked="" type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>10</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</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 pts]	_____
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>10</u>	<input checked="" type="checkbox"/> MUCK [0 pts]	<u>60</u>
<input type="checkbox"/> SAND (<2 mm) [6 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>10</u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 10 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **16**

TOTAL NUMBER OF SUBSTRATE TYPES: **5**

**HHEI Metric Points**

Substrate Max = 40

**21**

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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]

COMMENTS \_\_\_\_\_

MAXIMUM POOL DEPTH (centimeters): **25**

Pool Depth Max = 30

**30**

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements)** (Check ONLY one box):

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS \_\_\_\_\_

AVERAGE BANKFULL WIDTH (meters): **1**

Bankfull Width Max=30

**5**

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	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"/>	Conservation Tillage
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Moderate 5-10m	<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Urban or Industrial
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

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 type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Lorain NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): no Date of last precipitation: 2023-08-07 Quantity: 0.29

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): yes Canopy (% open): 50

Were samples collected for water chemistry? (Y/N): yes Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 20.5 Dissolved Oxygen (mg/l) \_ pH (S.U.) 8.26 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

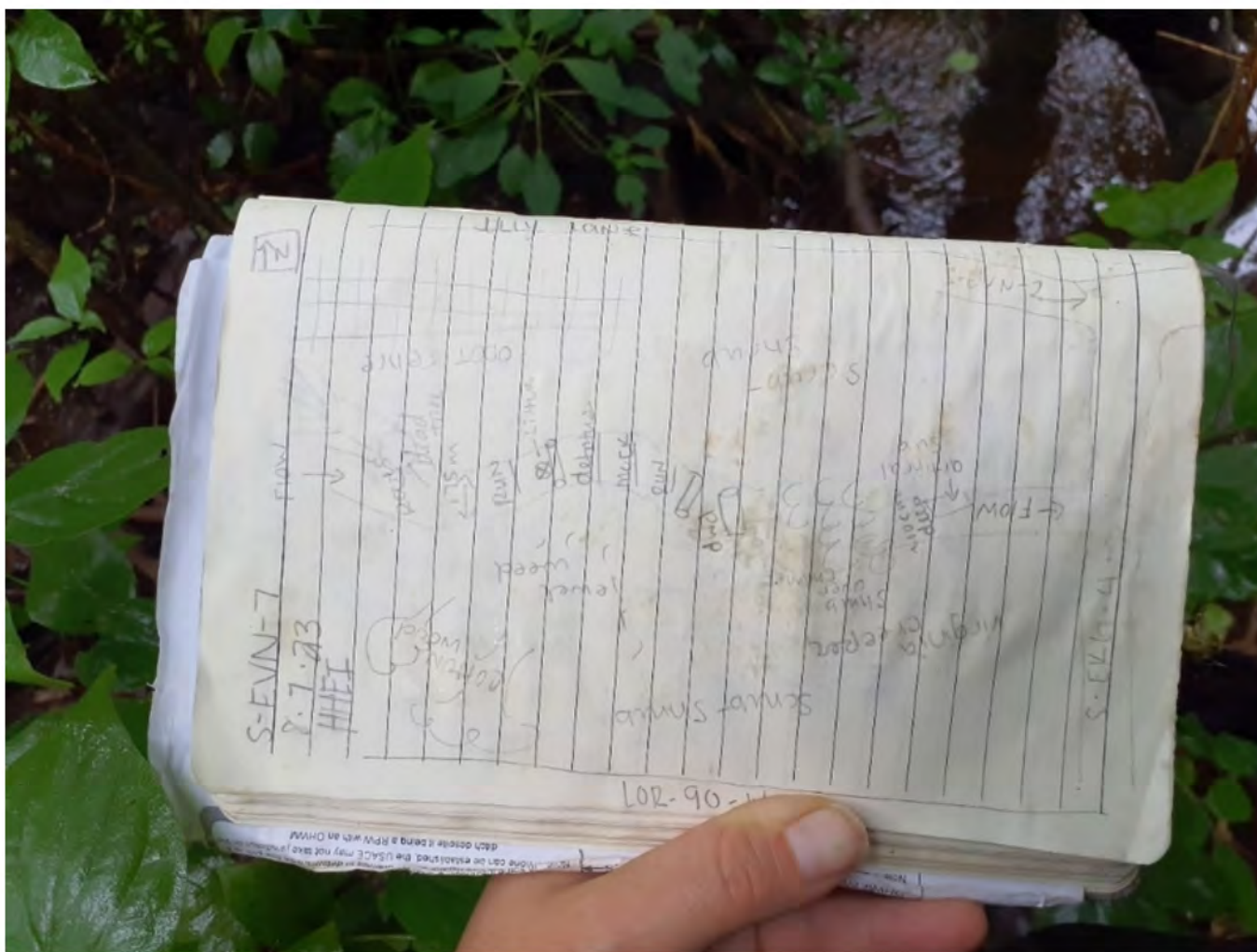
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3



SKETCH OF STREAM REACH: STREAM 30



SITE NAME/LOCATION ODOT - LOR-90-10.76 (PID 107714), north of the westbound lanes of I-90  
 SITE NUMBER      RIVER CODE      RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.00001  
 LENGTH OF STREAM REACH (ft) 88 LAT. 41.408923 LONG. -82.101793 RIVER MILE       
 DATE 2023-08-08 SCORER EVN 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	<u>    </u>	<input type="checkbox"/> SILT [3 pts]	<u>5</u>
<input checked="" type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>25</u>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>5</u>
<input type="checkbox"/> BEDROCK [16 pts]	<u>    </u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	<u>    </u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>25</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>10</u>
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>20</u>	<input type="checkbox"/> MUCK [0 pts]	<u>    </u>
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>10</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>    </u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 50 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 28

TOTAL NUMBER OF SUBSTRATE TYPES: 7

**HHEI Metric Points**

Substrate Max = 40

35

A + B

Pool Depth Max = 30

5

Bankfull Width Max=30

15

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- |  |  |
|--|--|
| <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 [5 pts]         |
| <input type="checkbox"/> > 10 - 22.5 cm [25 pts]   | <input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts] |

COMMENTS     

MAXIMUM POOL DEPTH (centimeters): 2

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

- |   |  |
|---|--|
| <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 (> 9' 7" - 4' 8") [20 pts] |  |

COMMENTS     

AVERAGE BANKFULL WIDTH (meters): 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

FLOODPLAIN QUALITY

L R (Per Bank)

Wide >10m

Moderate 5-10m

Narrow <5m

None

COMMENTS     

L R (Most Predominant per Bank)

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

**FLOW REGIME (At Time of Evaluation) (Check ONLY one box):**

Stream Flowing

Subsurface flow with isolated pools (Interstitial)

COMMENTS     

Moist Channel, isolated pools, no flow (Intermittent)

Dry channel, no water (Ephemeral)

**SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):**

None

0.5

1.0

1.5

2.0

2.5

3.0

>3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)

Flat to Moderate

Moderate (2 ft/100 ft)

Moderate to Severe

Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: NA NRCS Soil Map Stream Order NA  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-07 Quantity: 0.29

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): no Canopy (% open): 2

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 20.8 Dissolved Oxygen (mg/l) \_ pH (S.U.) 7.68 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/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

FLOW →

SEE PAGE 3

Sketch of Stream Reach: Stream 31



SITE NAME/LOCATION \_\_\_\_\_, ODOT - LOR-90-10.76 (PID 107714), north of westbound lanes of I-90 and south of Meadowfield Ct.  
 SITE NUMBER \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER BASIN Black River DRAINAGE AREA (mi<sup>2</sup>) 0.001  
 LENGTH OF STREAM REACH (ft) 187 LAT. 41.405458 LONG. -82.113229 RIVER MILE \_\_\_\_\_  
 DATE 2023-08-08 SCORER EVN 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

**1. SUBSTRATE: Estimate percent of every type of substrate 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.

TYPE	PERCENT	TYPE	PERCENT
<input checked="" type="checkbox"/> Bldr Slabs [16 pts]	_____	<input type="checkbox"/> Silt [3 pts]	<u>5</u>
<input type="checkbox"/> Boulder (>256 mm) [16 pts]	<u>20</u>	<input type="checkbox"/> Leaf Pack/Woody Debris [3 pts]	<u>5</u>
<input type="checkbox"/> Bedrock [16 pts]	_____	<input type="checkbox"/> Fine Detritus [3 pts]	_____
<input checked="" type="checkbox"/> Cobble (65-256 mm) [12 pts]	<u>25</u>	<input type="checkbox"/> Clay or Hardpan [0 pts]	<u>15</u>
<input type="checkbox"/> Gravel (2-64 mm) [9 pts]	<u>10</u>	<input type="checkbox"/> Muck [0 pts]	_____
<input type="checkbox"/> Sand (<2 mm) [6 pts]	<u>5</u>	<input type="checkbox"/> Artificial [3 pts]	<u>15</u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 45 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **28**

TOTAL NUMBER OF SUBSTRATE TYPES: **8**

**HHEI Metric Points**

Substrate Max = 40

**36**

A + B

**2. Maximum Pool Depth Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation.** Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<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 [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS \_\_\_\_\_

MAXIMUM POOL DEPTH (centimeters): **0.2**

Pool Depth Max = 30

**5**

**3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):**

<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 (> 9' 7" - 4' 8") [20 pts]	

COMMENTS \_\_\_\_\_

AVERAGE BANKFULL WIDTH (meters): **0.8**

Bankfull Width Max=30

**5**

**This information must also be completed**

**RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	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"/>	Conservation Tillage
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

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 type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/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: \_\_\_\_ Distance from Evaluated Stream \_\_\_\_  
 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: Avon NRCS Soil Map Page: \_ NRCS Soil Map Stream Order \_  
County: Lorain Township / City: ELYRIA

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): .yes Date of last precipitation: 2023-08-07 Quantity: 0.29

Photo-documentation Notes: \_\_\_\_

Elevated Turbidity? (Y/N): .no Canopy (% open): 15

Were samples collected for water chemistry? (Y/N): .no Lab Sample # or ID (attach results): \_

Field Measures: Temp (°C) 23.7 Dissolved Oxygen (mg/l) \_ pH (S.U.) 7.97 Conductivity (µmhos/cm) \_

Is the sampling reach representative of the stream (Y/N) .yes If not, please explain:

Additional comments/description of pollution impacts:

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N) \_ Species observed (if known): \_

Frogs or Tadpoles Observed? (Y/N) \_ Species observed (if known): \_

Salamanders Observed? (Y/N) \_ Species observed (if known): \_

Aquatic Macroinvertebrates Observed? (Y/N) \_ Species observed (if known): \_

Comments Regarding Biology:

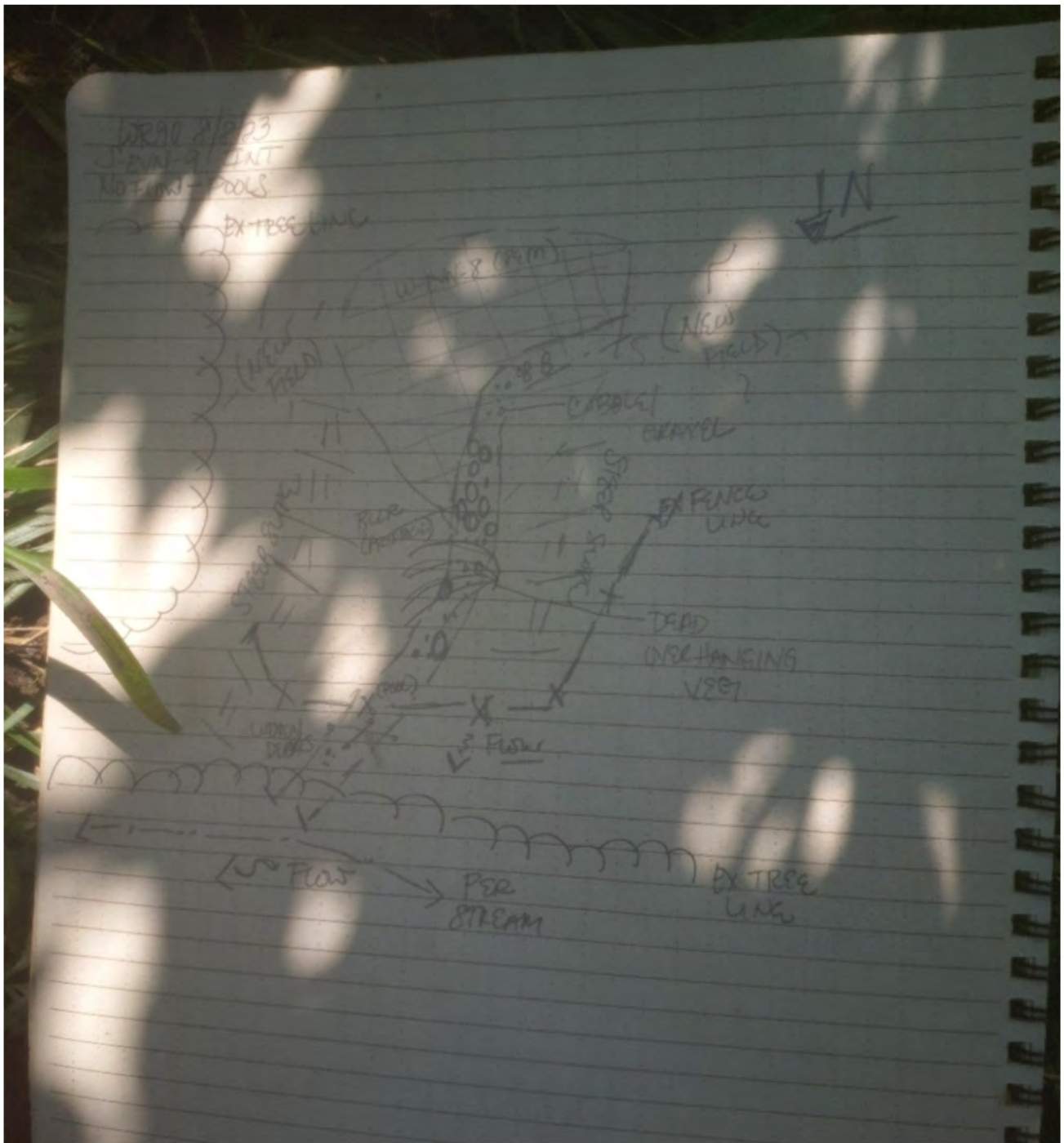
**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

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

**FLOW** →

SEE PAGE 3

SKETCH OF STREAM REACH: STREAM 32



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-7-31  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 1  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.3952238 Long: -82.1588453 Datum: WGS84  
 Soil Map Unit Name: Olmsted fine sandy loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 1</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.



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

Sampling Point: Wetland 1

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: 30 ft radius )																									
1. <i>Quercus palustris</i>	10	Yes	FACW	<b>Dominance Test worksheet:</b> 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%</u> (A/B)																					
2. _____																									
3. _____																									
4. _____																									
5. _____																									
6. _____																									
7. _____																									
	10	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%; text-align: center;">Total % Cover of:</th> <th style="width:25%; text-align: center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>110</u></td> <td style="text-align: center;">x 2 = <u>220</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 3 = <u>30</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>120</u> (A)</td> <td style="text-align: center;"><u>250</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.1</u>		Total % Cover of:	Multiply by:	OBL species	<u>0</u>	x 1 = <u>0</u>	FACW species	<u>110</u>	x 2 = <u>220</u>	FAC species	<u>10</u>	x 3 = <u>30</u>	FACU species	<u>0</u>	x 4 = <u>0</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>120</u> (A)	<u>250</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>0</u>	x 1 = <u>0</u>																							
FACW species	<u>110</u>	x 2 = <u>220</u>																							
FAC species	<u>10</u>	x 3 = <u>30</u>																							
FACU species	<u>0</u>	x 4 = <u>0</u>																							
UPL species	<u>0</u>	x 5 = <u>0</u>																							
Column Totals:	<u>120</u> (A)	<u>250</u> (B)																							
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																									
1. <i>Quercus palustris</i>	10	Yes	FACW																						
2. _____																									
3. _____																									
4. _____																									
5. _____																									
6. _____																									
7. _____																									
	10	= Total Cover																							
<b>Herb Stratum</b> (Plot size: 5 ft radius )																									
1. <i>Phragmites australis</i>	90	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
2. <i>Toxicodendron radicans</i>	10	No	FAC																						
3. _____																									
4. _____																									
5. _____																									
6. _____																									
7. _____																									
8. _____																									
9. _____																									
10. _____																									
11. _____																									
12. _____																									
	100	= Total Cover																							
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																									
1. _____				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
2. _____																									
3. _____																									
4. _____																									
	0	= Total Cover																							
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																					

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 12	2.5YR 7/1	80	2.5Y 6/8	20	C	M/PL	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Muck Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		<input type="checkbox"/> Other (Explain in Remarks)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: <u>fill</u> Depth (inches): <u>12</u>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Remarks:  
The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-7-31  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 1  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.395921 Long: -82.158669 Datum: WGS84  
 Soil Map Unit Name: Mitiwanga silt loam, 0 to 2 percent slopes NWI Classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is UPL. Based on the absence of all three parameters, this area is an upland.	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required; check all that apply)</p> <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p><b>Secondary Indicators (minimum of two required)</b></p> <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																
<p><b>Field Observations:</b></p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<p><b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b></p>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is not met.																																

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

Sampling Point: Upland 1

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 ft radius )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0			= Total Cover
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0			= Total Cover
<b>Herb Stratum</b> (Plot size: 5 ft radius )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	90			= Total Cover
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				
1.				
2.				
3.				
4.				
	0			= Total Cover
<b>Dominance Test worksheet:</b>				
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% (A/B)				
<b>Prevalence Index worksheet:</b>				
Total % Cover of:                      Multiply by:				
OBL species    0                      x 1 =    0				
FACW species    0                      x 2 =    0				
FAC species    0                      x 3 =    0				
FACU species    90                      x 4 =    360				
UPL species    0                      x 5 =    0				
Column Totals:    90 (A)                      360 (B)				
Prevalence Index = B/A = 4				
<b>Hydrophytic Vegetation Indicators:</b>				
_ 1 - Rapid Test for Hydrophytic Vegetation				
_ 2 - Dominance Test is >50%				
_ 3 - Prevalence Index is ≤3.0 <sup>1</sup>				
_ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)				
_ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Definitions of Vegetation Strata:</b>				
<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
<b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>				
<b>Remarks:</b> (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met. Upland woodland.				

**SOIL**

Sampling Point: Upland 1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 8	10YR 4/3	75						
0 to 8	10YR 6/3	25						
8 to 15	2.5Y 4/2	80	10YR 5/8	20	RM	M	Silty Clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 15

Hydric Soil Present? Yes \_\_\_\_\_ No

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-7-31  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 2  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4004237 Long: -82.154713 Datum: WGS84  
 Soil Map Unit Name: Mermill Loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 2</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 2

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1. <u>Quercus bicolor</u>	10	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	10	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="text-align:right">Total % Cover of:</td> <td style="text-align:right">Multiply by:</td> </tr> <tr> <td>OBL species <u>45</u></td> <td>x 1 = <u>45</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>225</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.7</u>	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>130</u> (A)	<u>225</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>45</u>	x 1 = <u>45</u>																	
FACW species <u>75</u>	x 2 = <u>150</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>130</u> (A)	<u>225</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																		
1. <u>Quercus palustris</u>	60	Yes	FACW															
2. <u>Frangula alnus</u>	10	No	FAC															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	70	= Total Cover																
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																		
1. <u>Juncus effusus</u>	15	Yes	OBL															
2. <u>Carex vulpinoidea</u>	10	Yes	OBL															
3. <u>Carex lupulina</u>	10	Yes	OBL															
4. <u>Scirpus atrovirens</u>	10	Yes	OBL															
5. <u>Geum laciniatum</u>	5	No	FACW															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	50	= Total Cover																
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
	0	= Total Cover																
<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																		
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 4/1	90	10YR 5/6	10	C	M/PL	Sandy Clay Loam	
4 to 12	10YR 7/1	50	10YR 7/8	50	RM	M	Sandy Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Muck Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 12

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-7-31  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 2  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4008362 Long: -82.1541968 Datum: WGS84  
 Soil Map Unit Name: Mermill loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 2

	Absolute % Cover	Dominant Species?	Indicator Status																																				
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> 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%</u> (A/B)																																			
1.																																							
2.																																							
3.																																							
4.																																							
5.																																							
6.																																							
	<u>0</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:15%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>10</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>15</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>85</u></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>340</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>95</u> (A)</td> <td></td> <td style="text-align: center;"><u>365</u> (B)</td> <td></td> </tr> </tbody> </table> Prevalence Index = B/A = <u>3.8</u>		Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>5</u>	x 2 =	<u>10</u>		FAC species	<u>5</u>	x 3 =	<u>15</u>		FACU species	<u>85</u>	x 4 =	<u>340</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>95</u> (A)		<u>365</u> (B)	
	Total % Cover of:		Multiply by:																																				
OBL species	<u>0</u>	x 1 =	<u>0</u>																																				
FACW species	<u>5</u>	x 2 =	<u>10</u>																																				
FAC species	<u>5</u>	x 3 =	<u>15</u>																																				
FACU species	<u>85</u>	x 4 =	<u>340</u>																																				
UPL species	<u>0</u>	x 5 =	<u>0</u>																																				
Column Totals:	<u>95</u> (A)		<u>365</u> (B)																																				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																																							
1.																																							
2.																																							
3.																																							
4.																																							
5.																																							
6.																																							
7.																																							
	<u>0</u>	= Total Cover																																					
<b>Herb Stratum</b> (Plot size: 5 ft radius )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																			
1.	<i>Poa pratensis</i>	85	Yes		FACU																																		
2.	<i>Phragmites australis</i>	5	No		FACW																																		
3.	<i>Rumex crispus</i>	5	No		FAC																																		
4.																																							
5.																																							
6.																																							
7.																																							
8.																																							
9.																																							
10.																																							
11.																																							
12.																																							
		<u>95</u>	= Total Cover																																				
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																			
1.																																							
2.																																							
3.																																							
4.																																							
		<u>0</u>	= Total Cover																																				
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <b>X</b> _____																																			

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 4/3	90	10YR 5/8	10	C	PL	Clay Loam	
4 to 10	10YR 5/2	90	10YR 5/6	10	C	PL	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 10

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

Remarks:

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-8-1  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 3  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4025148 Long: -82.1483122 Datum: WGS84  
 Soil Map Unit Name: Olmsted fine sandy loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 3</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 3

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> 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%</u> (A/B)																					
1.																									
2.																									
3.																									
4.																									
5.																									
6.																									
	<u>0</u>	= Total Cover																							
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%; text-align: center;">Total % Cover of:</th> <th style="width:25%; text-align: center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>80</u></td> <td style="text-align: center;">x 1 = <u>80</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 2 = <u>20</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 3 = <u>30</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x 4 = <u>20</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>105</u> (A)</td> <td style="text-align: center;"><u>150</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>1.4</u>		Total % Cover of:	Multiply by:	OBL species	<u>80</u>	x 1 = <u>80</u>	FACW species	<u>10</u>	x 2 = <u>20</u>	FAC species	<u>10</u>	x 3 = <u>30</u>	FACU species	<u>5</u>	x 4 = <u>20</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>105</u> (A)	<u>150</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>80</u>	x 1 = <u>80</u>																							
FACW species	<u>10</u>	x 2 = <u>20</u>																							
FAC species	<u>10</u>	x 3 = <u>30</u>																							
FACU species	<u>5</u>	x 4 = <u>20</u>																							
UPL species	<u>0</u>	x 5 = <u>0</u>																							
Column Totals:	<u>105</u> (A)	<u>150</u> (B)																							
1.																									
2.																									
3.																									
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5.																									
6.																									
7.																									
	<u>0</u>	= Total Cover																							
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
1.	<u><i>Typha angustifolia</i></u>	60	Yes		OBL																				
2.	<u><i>Juncus effusus</i></u>	15	No		OBL																				
3.	<u><i>Juncus torreyi</i></u>	10	No		FACW																				
4.	<u><i>Rumex crispus</i></u>	10	No		FAC																				
5.	<u><i>Cirsium arvense</i></u>	5	No		FACU																				
6.	<u><i>Carex stipata</i></u>	5	No		OBL																				
7.																									
8.																									
9.																									
10.																									
11.																									
12.																									
		<u>105</u>	= Total Cover																						
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
1.																									
2.																									
3.																									
4.																									
		<u>0</u>	= Total Cover																						
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																					

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 8	10YR 3/1	95	10YR 5/8	5	C	PL	Clay Loam	
8 to 12	10YR 4/1	75	10YR 5/6	25	D	M	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 12

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-8-1  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 3  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 10 to 20  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4027405 Long: -82.1473406 Datum: WGS84  
 Soil Map Unit Name: Olmsted fine sandy loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertupe is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 3

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)																					
1. _____																									
2. _____																									
3. _____																									
4. _____																									
5. _____																									
6. _____																									
	<u>0</u>	= Total Cover																							
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%;">Total % Cover of:</th> <th style="width:25%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 2 = <u>20</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 3 = <u>30</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>85</u></td> <td style="text-align: center;">x 4 = <u>340</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>105</u> (A)</td> <td style="text-align: center;"><u>390</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>3.7</u>		Total % Cover of:	Multiply by:	OBL species	<u>0</u>	x 1 = <u>0</u>	FACW species	<u>10</u>	x 2 = <u>20</u>	FAC species	<u>10</u>	x 3 = <u>30</u>	FACU species	<u>85</u>	x 4 = <u>340</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>105</u> (A)	<u>390</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>0</u>	x 1 = <u>0</u>																							
FACW species	<u>10</u>	x 2 = <u>20</u>																							
FAC species	<u>10</u>	x 3 = <u>30</u>																							
FACU species	<u>85</u>	x 4 = <u>340</u>																							
UPL species	<u>0</u>	x 5 = <u>0</u>																							
Column Totals:	<u>105</u> (A)	<u>390</u> (B)																							
1. <u><i>Elaeagnus umbellata</i></u>	25	Yes	NI																						
2. <u><i>Malus sp.</i></u>	20	Yes	NI																						
3. <u><i>Juniperus virginiana</i></u>	20	Yes	FACU																						
4. <u><i>Solidago canadensis</i></u>	5	No	FACU																						
5. _____																									
6. _____																									
7. _____																									
	<u>70</u>	= Total Cover																							
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
1. <u><i>Poa pratensis</i></u>	40	Yes	FACU																						
2. <u><i>Rubus allegheniensis</i></u>	15	Yes	FACU																						
3. <u><i>Symphytotrichum novae-angliae</i></u>	10	No	FACW																						
4. <u><i>Toxicodendron radicans</i></u>	5	No	FAC																						
5. <u><i>Prunella vulgaris</i></u>	5	No	FAC																						
6. <u><i>Dracopis amplexicaulis</i></u>	5	No	FACU																						
7. _____																									
8. _____																									
9. _____																									
10. _____																									
11. _____																									
12. _____																									
	<u>80</u>	= Total Cover																							
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
1. _____																									
2. _____																									
3. _____																									
4. _____																									
	<u>0</u>	= Total Cover																							
<b>Hydrophytic Vegetation Present?</b> Yes _____      No <input checked="" type="checkbox"/>																									

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.



**SOIL**

Sampling Point: Upland 3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	10YR 4/3	100					Sandy Clay Loam	
6 to 8	10YR 4/2	95	10YR 5/6	5	C	PL	Sandy Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 8

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain Sampling Date: 2023-8-1  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 4  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.402896 Long: -82.1431552 Datum: WGS84  
 Soil Map Unit Name: Haskins loam, 0 to 2 percent slopes NWI Classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 4</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PFO. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 4

	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																				
1. <i>Quercus palustris</i>	30	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																
2. <i>Populus deltoides</i>	30	Yes	FAC																	
3. <i>Acer saccharinum</i>	20	Yes	FACW																	
4. <i>Fraxinus pennsylvanica</i>	10	No	FACW																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>90</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>50</u></td> <td>x 3 = <u>150</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>300</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.4</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>50</u>	x 3 = <u>150</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>300</u> (B)	Prevalence Index = B/A = <u>2.4</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>75</u>	x 2 = <u>150</u>																			
FAC species <u>50</u>	x 3 = <u>150</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>125</u> (A)	<u>300</u> (B)																			
Prevalence Index = B/A = <u>2.4</u>																				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																				
1. <i>Frangula alnus</i>	10	Yes	FAC																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>10</u>	= Total Cover																		
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																				
1. <i>Toxicodendron radicans</i>	10	Yes	FAC	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <i>Impatiens capensis</i>	10	Yes	FACW																	
3. <i>Persicaria pensylvanica</i>	5	Yes	FACW																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
	<u>25</u>	= Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																				
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
	<u>0</u>	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10YR 4/1	90	10YR 5/8	10	D	M/PL	Sandy Clay Loam	
3 to 16	10YR 7/1	70	10YR 7/6	30	C	M	Sandy Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 16

Hydric Soil Present? Yes  No

**Remarks:**

The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain Sampling Date: 2023-8-1  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 4  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4029223 Long: -82.1426374 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of two of three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 4

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
	0			= Total Cover														
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																		
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
	0			= Total Cover														
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																		
1.																		
2.	50	Yes	FACU															
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
	100			= Total Cover														
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1.																		
2.	15	Yes	FACU															
3.																		
4.																		
	15			= Total Cover														
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p><b>Dominance Test worksheet:</b>                      Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)</p> </div> <div style="width: 35%;"> <p><b>Prevalence Index worksheet:</b></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align:center;">Total % Cover of:</th> <th style="text-align:center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>115</u></td> <td>x 4 = <u>460</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>460</u> (B)</td> </tr> </tbody> </table> <p style="text-align: center;">Prevalence Index = B/A = <u>4</u></p> </div> </div>					Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>115</u>	x 4 = <u>460</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>115</u> (A)	<u>460</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>115</u>	x 4 = <u>460</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>115</u> (A)	<u>460</u> (B)																	
<p><b>Hydrophytic Vegetation Indicators:</b></p> <p><u>  </u> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><u>  </u> 2 - Dominance Test is &gt;50%</p> <p><u>  </u> 3 - Prevalence Index is ≤3.0<sup>1</sup></p> <p><u>  </u> 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><u>  </u> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>																		
<p><b>Definitions of Vegetation Strata:</b></p> <p><b>Tree</b> — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p><b>Sapling/shrub</b> — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p><b>Herb</b> — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p><b>Woody vines</b> — All woody vines greater than 3.28 ft in height.</p>																		
<p><b>Hydrophytic Vegetation Present?</b>      Yes <u>      </u>      No <u>  X  </u></p>																		
<p>Remarks: (Include photo numbers here or on a separate sheet.)                      The criterion for hydrophytic vegetation is not met.</p>																		

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	10YR 4/1	80	10YR 5/6	20	C	M/PL	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |  |   |  |
|--|---|--|
| <b>Hydric Soil Indicators:</b><br><input type="checkbox"/> Histosol (A1)<br><input type="checkbox"/> Histic Epipedon (A2)<br><input type="checkbox"/> Black Histic (A3)<br><input type="checkbox"/> Hydrogen Sulfide (A4)<br><input type="checkbox"/> Stratified Layers (A5)<br><input type="checkbox"/> Depleted Below Dark Surface (A11)<br><input type="checkbox"/> Thick Dark Surface (A12)<br><input type="checkbox"/> Sandy Mucky Mineral (S1)<br><input type="checkbox"/> Sandy Gleyed Matrix (S4)<br><input type="checkbox"/> Sandy Redox (S5)<br><input type="checkbox"/> Stripped Matrix (S6)<br><input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)<br><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)<br><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)<br><input type="checkbox"/> Loamy Gleyed Matrix (F2)<br><input checked="" type="checkbox"/> Depleted Matrix (F3)<br><input type="checkbox"/> Redox Dark Surface (F6)<br><input type="checkbox"/> Depleted Dark Surface (F7)<br><input type="checkbox"/> Redox Depressions (F8) | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b><br><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)<br><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)<br><input type="checkbox"/> 5 cm Muck Peat or Peat (S3) (LRR K, L, R)<br><input type="checkbox"/> Dark Surface (S7) (LRR K, L)<br><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)<br><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)<br><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)<br><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)<br><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)<br><input type="checkbox"/> Red Parent Material (F21)<br><input type="checkbox"/> Very Shallow Dark Surface (TF12)<br><input type="checkbox"/> Other (Explain in Remarks) |
|--|---|--|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: <u>Gravel</u> Depth (inches): <u>6</u>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain Sampling Date: 2023-8-1  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 5  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4030145 Long: -82.1376208 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 5</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PFO. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.



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

Sampling Point: Wetland 5

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: 30 ft radius )																		
1. <i>Acer saccharinum</i>	30	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</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>100%</u> (A/B)														
2. <i>Quercus palustris</i>	10	Yes	FACW															
3. <i>Fraxinus pennsylvanica</i>	5	No	FACW															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
	45	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>130</u></td> <td>x 2 = <u>260</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>160</u> (A)</td> <td><u>350</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>130</u>	x 2 = <u>260</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>160</u> (A)	<u>350</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>130</u>	x 2 = <u>260</u>																	
FAC species <u>30</u>	x 3 = <u>90</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>160</u> (A)	<u>350</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																		
1. <i>Cornus amomum</i>	20	Yes	FACW															
2. <i>Frangula alnus</i>	15	Yes	FAC															
3. <i>Viburnum dentatum</i>	5	No	FAC															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
	40	= Total Cover																
<b>Herb Stratum</b> (Plot size: 5 ft radius )																		
1. <i>Phalaris arundinacea</i>	60	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <i>Toxicodendron radicans</i>	10	No	FAC															
3. <i>Geum laciniatum</i>	5	No	FACW															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
	75	= Total Cover																
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
	0	= Total Cover																
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____														

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 7	10YR 3/1	95	10YR 4/6	5	C	PL	Clay Loam	
7 to 12	10YR 7/1	65	10YR 6/6	35	D	M	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 12

Hydric Soil Present? Yes  No

**Remarks:**

The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain Sampling Date: 2023-8-1  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 5  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4030741 Long: -82.1368839 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertupe is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 5

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 ft radius )				
1. <i>Acer saccharinum</i>	10	Yes	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	10	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	0	= Total Cover		
<b>Herb Stratum</b> (Plot size: 5 ft radius )				
1. <i>Poa pratensis</i>	80	Yes	FACU	
2. <i>Cirsium arvense</i>	30	Yes	FACU	
3. <i>Cirsium arvense</i>		No	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	110	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= Total Cover		

	<p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>33.3%</u> (A/B)</p>														
	<p><b>Prevalence Index worksheet:</b></p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align:center;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>10</u> (A)</td> <td><u>20</u> (B)</td> </tr> </table> <p style="text-align:center;">Prevalence Index = B/A = <u>2</u></p>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>10</u> (A)	<u>20</u> (B)
Total % Cover of:	Multiply by:														
OBL species <u>0</u>	x 1 = <u>0</u>														
FACW species <u>10</u>	x 2 = <u>20</u>														
FAC species <u>0</u>	x 3 = <u>0</u>														
FACU species <u>0</u>	x 4 = <u>0</u>														
UPL species <u>0</u>	x 5 = <u>0</u>														
Column Totals: <u>10</u> (A)	<u>20</u> (B)														
	<p><b>Hydrophytic Vegetation Indicators:</b></p> <p><u>  </u> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><u>  </u> 2 - Dominance Test is &gt;50%</p> <p><u>  </u> 3 - Prevalence Index is ≤3.0<sup>1</sup></p> <p><u>  </u> 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><u>  </u> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>														
	<p><b>Definitions of Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.</p>														
	<p><b>Hydrophytic Vegetation Present?</b>      Yes <u>      </u>      No <u>  X  </u></p>														

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

**SOIL**

Sampling Point: Upland 5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 7	10YR 4/4	100					Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 7

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-2  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 6  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4036755 Long: -82.1274786 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 6</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 6

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> 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)														
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>80</u></td> <td>x 2 = <u>160</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>270</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.3</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>80</u>	x 2 = <u>160</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>120</u> (A)	<u>270</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>80</u>	x 2 = <u>160</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>120</u> (A)	<u>270</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																		
1.	<u>Cornus amomum</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>														
2.	<u>Fraxinus americana</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>														
3.																		
4.																		
5.																		
6.																		
7.																		
<u>15</u> = Total Cover																		
<b>Herb Stratum</b> (Plot size: 5 ft radius )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1.	<u>Phragmites australis</u>	<u>60</u>	<u>Yes</u>		<u>FACW</u>													
2.	<u>Rumex crispus</u>	<u>20</u>	<u>No</u>		<u>FAC</u>													
3.	<u>Juncus torreyi</u>	<u>10</u>	<u>No</u>		<u>FACW</u>													
4.	<u>Lythrum salicaria</u>	<u>10</u>	<u>No</u>		<u>OBL</u>													
5.	<u>Dasistoma macrophylla</u>	<u>5</u>	<u>No</u>		<u>FACU</u>													
6.																		
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
<u>105</u> = Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
1.																		
2.																		
3.																		
4.																		
<u>0</u> = Total Cover																		
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 5	10YR 5/1	85	10YR 5/8	15	C	PL	Sandy Clay Loam	
5 to 12	10YR 5/1	50	10YR 5/6	50	D	M	Sandy Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 12

Hydric Soil Present? Yes  No

Remarks:

The criterion for hydric soil is met.



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-2  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 6  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4036573 Long: -82.1267287 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 6

	Absolute % Cover	Dominant Species?	Indicator Status																									
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)																								
1.																												
2.																												
3.																												
4.																												
5.																												
6.																												
7.																												
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;"></th> <th style="width:20%;">Total % Cover of:</th> <th style="width:20%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x 2 = <u>10</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>110</u></td> <td style="text-align: center;">x 4 = <u>440</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>115</u> (A)</td> <td style="text-align: center;"><u>450</u> (B)</td> </tr> <tr> <td colspan="3" style="text-align: center;">Prevalence Index = B/A = <u>3.9</u></td> </tr> </tbody> </table>		Total % Cover of:	Multiply by:	OBL species	<u>0</u>	x 1 = <u>0</u>	FACW species	<u>5</u>	x 2 = <u>10</u>	FAC species	<u>0</u>	x 3 = <u>0</u>	FACU species	<u>110</u>	x 4 = <u>440</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>115</u> (A)	<u>450</u> (B)	Prevalence Index = B/A = <u>3.9</u>		
	Total % Cover of:	Multiply by:																										
OBL species	<u>0</u>	x 1 = <u>0</u>																										
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Column Totals:	<u>115</u> (A)	<u>450</u> (B)																										
Prevalence Index = B/A = <u>3.9</u>																												
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																												
1.	<u>15</u>	Yes	FACU																									
2.	<u>15</u>	Yes	FACU																									
3.	<u>5</u>	No	FACW																									
4.																												
5.																												
6.																												
7.																												
<u>35</u> = Total Cover																												
<b>Herb Stratum</b> (Plot size: 5 ft radius )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
1.	<u>40</u>	Yes	FACU																									
2.	<u>30</u>	Yes	FACU																									
3.	<u>10</u>	No	FACU																									
4.																												
5.																												
6.																												
7.																												
8.																												
9.																												
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<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																												
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				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																								
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <b>X</b> _____																								

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	10YR 4/3	100						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 6

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

Remarks:  
 The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-2  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 7  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4036941 Long: -82.1141261 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 7</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

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

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 7

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				
1.	<u>Typha angustifolia</u>	70	Yes	OBL
2.	<u>Rumex crispus</u>	10	No	FAC
3.	<u>Persicaria pensylvanica</u>	10	No	FACW
4.	<u>Dipsacus laciniatus</u>	5	No	FACU
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>95</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
	<u>0</u>	= Total Cover		

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:		Multiply by:	
OBL species	<u>70</u>	x 1 =	<u>70</u>	
FACW species	<u>10</u>	x 2 =	<u>20</u>	
FAC species	<u>10</u>	x 3 =	<u>30</u>	
FACU species	<u>5</u>	x 4 =	<u>20</u>	
UPL species	<u>0</u>	x 5 =	<u>0</u>	
Column Totals:	<u>95</u> (A)		<u>140</u> (B)	

Prevalence Index = B/A = 1.5

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**  
**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 7	10YR 4/1	90	10YR 6/8	10	C	PL	Clay Loam	
7 to 14	10YR 6/1	70	10YR 6/8	30	D	PL	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 14

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-2  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 7  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 10 to 20  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4037427 Long: -82.1142904 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is UPL. Based on the absence of all three parameters, this area is an upland.	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required; check all that apply)</p> <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p><b>Secondary Indicators (minimum of two required)</b></p> <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> FAC-Neutral Test (D5)																																
<p><b>Field Observations:</b></p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<p><b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b></p>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is not met.																																

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

Sampling Point: Upland 7

	Absolute % Cover	Dominant Species?	Indicator Status																																				
<b>Tree Stratum</b> (Plot size: 30 ft radius )																																							
1. <i>Pinus strobus</i>	20	Yes	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)																																			
2. <i>Elaeagnus umbellata</i>	10	Yes	NI																																				
3. <i>Malus sp.</i>	10	Yes	NI																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
	40	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td>x 1 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">0</td> <td>x 2 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">0</td> <td>x 3 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">115</td> <td>x 4 =</td> <td style="text-align: center;">460</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td>x 5 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">115 (A)</td> <td></td> <td style="text-align: center;">460 (B)</td> <td></td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4</u>		Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0		FACW species	0	x 2 =	0		FAC species	0	x 3 =	0		FACU species	115	x 4 =	460		UPL species	0	x 5 =	0		Column Totals:	115 (A)		460 (B)	
	Total % Cover of:		Multiply by:																																				
OBL species	0	x 1 =	0																																				
FACW species	0	x 2 =	0																																				
FAC species	0	x 3 =	0																																				
FACU species	115	x 4 =	460																																				
UPL species	0	x 5 =	0																																				
Column Totals:	115 (A)		460 (B)																																				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																																							
1. <i>Malus sp.</i>	10	Yes	NI																																				
2. <i>Juniperus virginiana</i>	10	Yes	FACU																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
	20	= Total Cover																																					
<b>Herb Stratum</b> (Plot size: 5 ft radius )																																							
1. <i>Poa pratensis</i>	60	Yes	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																			
2. <i>Dipsacus laciniatus</i>	20	Yes	FACU																																				
3. <i>Solidago canadensis</i>	5	No	FACU																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
8. _____	_____	_____	_____																																				
9. _____	_____	_____	_____																																				
10. _____	_____	_____	_____																																				
11. _____	_____	_____	_____																																				
12. _____	_____	_____	_____																																				
	85	= Total Cover																																					
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																																							
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																			
2. _____	_____	_____	_____																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
	0	= Total Cover																																					
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>																																			

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met. Upland woodland.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 7	7.5YR 4/3	100					Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 7

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

Remarks:  
 The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-2  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 8  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4044068 Long: -82.1129378 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 8</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertyping is PSS. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

VEGETATION – Use scientific names of plants.

Sampling Point: Wetland 8

	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b> (Plot size: 30 ft radius )																				
1. <i>Salix nigra</i>	15	Yes	OBL	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</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>100%</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	15	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>50</u></td> <td>x 1 = <u>50</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>160</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.5</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>50</u>	x 1 = <u>50</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>105</u> (A)	<u>160</u> (B)	Prevalence Index = B/A = <u>1.5</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>50</u>	x 1 = <u>50</u>																			
FACW species <u>55</u>	x 2 = <u>110</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>105</u> (A)	<u>160</u> (B)																			
Prevalence Index = B/A = <u>1.5</u>																				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																				
1. <i>Cornus amomum</i>	45	Yes	FACW																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	45	= Total Cover																		
<b>Herb Stratum</b> (Plot size: 5 ft radius )																				
1. <i>Leersia oryzoides</i>	25	Yes	OBL	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <i>Eupatorium perfoliatum</i>	10	Yes	FACW																	
3. <i>Typha angustifolia</i>	10	Yes	OBL																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	45	= Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																				
1. _____				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
	0	= Total Cover																		
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	7.5YR 4/1	80	7.5YR 4/6	20	C	M/PL	Silty Clay Loam	
6 to 13	10YR 6/1	75	10YR 6/8	25	D	M	Silty Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 13

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-8  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 8  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Foot slope Local relief (concave, convex, none): None Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4044991 Long: -82.1125807 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 8

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: 30 ft radius )																		
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> 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%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
	<u>0</u>	= Total Cover																
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																		
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>415</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>85</u>	x 4 = <u>340</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>100</u> (A)	<u>415</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>85</u>	x 4 = <u>340</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>100</u> (A)	<u>415</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
	<u>0</u>	= Total Cover																
<b>Herb Stratum</b> (Plot size: 5 ft radius )																		
1. <i>Solidago canadensis</i>	75	Yes	FACU															
2. <i>Cichorium intybus</i>	10	No	FACU															
3. <i>Apocynum androsaemifolium</i>	10	No	UPL															
4. <i>Daucus carota</i>	5	No	UPL															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
	<u>100</u>	= Total Cover																
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																		
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
	<u>0</u>	= Total Cover																
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																		
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;"><b>Hydrophytic Vegetation Present?</b></td> <td style="width:20%; text-align: center;">Yes _____</td> <td style="width:20%; text-align: center;">No <input checked="" type="checkbox"/></td> </tr> </table>					<b>Hydrophytic Vegetation Present?</b>	Yes _____	No <input checked="" type="checkbox"/>											
<b>Hydrophytic Vegetation Present?</b>	Yes _____	No <input checked="" type="checkbox"/>																

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 4/3	100					Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 4

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

Remarks:  
 The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-3  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 9  
 Investigator(s): Emma Given, Michael Whitacre, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 10 to 20  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4078616 Long: -82.1033195 Datum: WGS84  
 Soil Map Unit Name: Orrville silt loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 9</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.



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

Sampling Point: Wetland 9

	Absolute % Cover	Dominant Species?	Indicator Status																																									
<b>Tree Stratum</b> (Plot size: 30 ft radius )																																												
1. <i>Acer saccharum</i>	10	Yes	FACU	<b>Dominance Test worksheet:</b> 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)																																								
2. _____																																												
3. _____																																												
4. _____																																												
5. _____																																												
6. _____																																												
7. _____																																												
	10	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:15%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td>x 1 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">95</td> <td>x 2 =</td> <td style="text-align: center;">190</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">10</td> <td>x 3 =</td> <td style="text-align: center;">30</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">10</td> <td>x 4 =</td> <td style="text-align: center;">40</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td>x 5 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">115</td> <td>(A)</td> <td style="text-align: center;">260</td> <td>(B)</td> </tr> <tr> <td colspan="5" style="text-align: center;">Prevalence Index = B/A = <u>2.3</u></td> </tr> </tbody> </table>		Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0		FACW species	95	x 2 =	190		FAC species	10	x 3 =	30		FACU species	10	x 4 =	40		UPL species	0	x 5 =	0		Column Totals:	115	(A)	260	(B)	Prevalence Index = B/A = <u>2.3</u>				
	Total % Cover of:		Multiply by:																																									
OBL species	0	x 1 =	0																																									
FACW species	95	x 2 =	190																																									
FAC species	10	x 3 =	30																																									
FACU species	10	x 4 =	40																																									
UPL species	0	x 5 =	0																																									
Column Totals:	115	(A)	260	(B)																																								
Prevalence Index = B/A = <u>2.3</u>																																												
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																																												
1. <i>Fraxinus pennsylvanica</i>	5	Yes	FACW																																									
2. _____																																												
3. _____																																												
4. _____																																												
5. _____																																												
6. _____																																												
7. _____																																												
	5	= Total Cover																																										
<b>Herb Stratum</b> (Plot size: 5 ft radius )																																												
1. <i>Phragmites australis</i>	90	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																								
2. <i>Toxicodendron radicans</i>	10	No	FAC																																									
3. _____																																												
4. _____																																												
5. _____																																												
6. _____																																												
7. _____																																												
8. _____																																												
9. _____																																												
10. _____																																												
11. _____																																												
12. _____																																												
	100	= Total Cover																																										
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																																												
1. _____				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																								
2. _____																																												
3. _____																																												
4. _____																																												
	0	= Total Cover																																										
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																																								

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 5	10YR 4/1	90	10YR 5/8	10	C	M/PL	Clay Loam	
5 to 13	10YR 7/1	60	10YR 6/6	40	D	M	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 13

Hydric Soil Present? Yes  No

**Remarks:**

The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-3  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 9  
 Investigator(s): Emma Given, Michael Whitacre, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 10 to 20  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4078021 Long: -82.1029708 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertupe is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 9

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: 30 ft radius )																		
1. <i>Acer saccharum</i>	15	Yes	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
15		= Total Cover																
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																		
1. <i>Catalpa speciosa</i>	10	Yes	FACU	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>75</u> (A)</td> <td><u>300</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>75</u> (A)	<u>300</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>75</u> (A)	<u>300</u> (B)																	
2. <i>Malus sp.</i>	10	Yes	NI															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
20		= Total Cover																
<b>Herb Stratum</b> (Plot size: 5 ft radius )																		
1. <i>Poa pratensis</i>	20	Yes	FACU	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <i>Solidago canadensis</i>	15	Yes	FACU															
3. <i>Rosa multiflora</i>	15	Yes	FACU															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
50		= Total Cover																
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
0		= Total Cover																
				<b>Hydrophytic Vegetation Present?</b> Yes _____      No <input checked="" type="checkbox"/>														

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	7.5YR 4/2	100					Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Muck Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		<input type="checkbox"/> Other (Explain in Remarks)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: <u>Gravel</u> Depth (inches): <u>4</u>	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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Remarks:  
 The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-3  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 10  
 Investigator(s): Emma Given, Michael Whitacre, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Channel Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.406903 Long: -82.102535 Datum: WGS84  
 Soil Map Unit Name: Orrville silt loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 10</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 10

	Absolute % Cover	Dominant Species?	Indicator Status																													
<b>Tree Stratum</b> (Plot size: 30 ft radius )																																
1.																																
2.																																
3.																																
4.																																
5.																																
6.																																
7.																																
	0	= Total Cover																														
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																																
1.	15	Yes	FAC																													
2.		No	FACW																													
3.		No	FACU																													
4.		No	UPL																													
5.																																
6.																																
7.																																
	15	= Total Cover																														
<b>Herb Stratum</b> (Plot size: 5 ft radius )																																
1.	60	Yes	FACW																													
2.	20	Yes	FACW																													
3.	5	No	UPL																													
4.																																
5.																																
6.																																
7.																																
8.																																
9.																																
10.																																
11.																																
12.																																
	85	= Total Cover																														
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																																
1.																																
2.																																
3.																																
4.																																
	0	= Total Cover																														
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p><b>Dominance Test worksheet:</b>                      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%</u> (A/B)</p> </div> <div style="width: 35%;"> <p><b>Prevalence Index worksheet:</b></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 20%; text-align:center;">Total % Cover of:</th> <th style="width: 20%;"></th> <th style="width: 20%; text-align:center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:center;">x 1 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:center;">x 2 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>15</u></td> <td style="text-align:center;">x 3 =</td> <td style="text-align:center;"><u>45</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:center;">x 4 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:center;">x 5 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>15</u> (A)</td> <td></td> <td style="text-align:center;"><u>45</u> (B)</td> </tr> </tbody> </table> <p style="text-align: center;">Prevalence Index = B/A = <u>3</u></p> </div> </div>						Total % Cover of:		Multiply by:	OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>15</u>	x 3 =	<u>45</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>15</u> (A)		<u>45</u> (B)
	Total % Cover of:		Multiply by:																													
OBL species	<u>0</u>	x 1 =	<u>0</u>																													
FACW species	<u>0</u>	x 2 =	<u>0</u>																													
FAC species	<u>15</u>	x 3 =	<u>45</u>																													
FACU species	<u>0</u>	x 4 =	<u>0</u>																													
UPL species	<u>0</u>	x 5 =	<u>0</u>																													
Column Totals:	<u>15</u> (A)		<u>45</u> (B)																													
<p><b>Hydrophytic Vegetation Indicators:</b></p> <p><u>  </u> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input checked="" type="checkbox"/> 2 - Dominance Test is &gt;50%</p> <p><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0<sup>1</sup></p> <p><u>  </u> 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><u>  </u> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>																																
<p><b>Definitions of Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.</p>																																
<p><b>Hydrophytic Vegetation Present?</b>      Yes <input checked="" type="checkbox"/>      No <input type="checkbox"/></p>																																

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.





**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-3  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 10  
 Investigator(s): Emma Given, Michael Whitacre, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Convex Slope (%): 20 to 25  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.40695475 Long: -82.1026281 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is UPL. Based on the presence of the wetland hydrology and hydrophytic vegetation parameters, this area is a wetland. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 10

	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b> (Plot size: 30 ft radius )																				
1. <i>Acer saccharum</i>	15	Yes	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
2. <i>Populus deltoides</i>	10	Yes	FAC																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	25	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%; text-align: center;">Total % Cover of:</th> <th style="width:50%; text-align: center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>45</u></td> <td>x 3 = <u>135</u></td> </tr> <tr> <td>FACU species <u>115</u></td> <td>x 4 = <u>460</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>170</u> (A)</td> <td><u>615</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.6</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>45</u>	x 3 = <u>135</u>	FACU species <u>115</u>	x 4 = <u>460</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>170</u> (A)	<u>615</u> (B)	Prevalence Index = B/A = <u>3.6</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>10</u>	x 2 = <u>20</u>																			
FAC species <u>45</u>	x 3 = <u>135</u>																			
FACU species <u>115</u>	x 4 = <u>460</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>170</u> (A)	<u>615</u> (B)																			
Prevalence Index = B/A = <u>3.6</u>																				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																				
1. <i>Frangula alnus</i>	35	Yes	FAC																	
2. <i>Lonicera japonica</i>	25	Yes	FACU																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	60	= Total Cover																		
<b>Herb Stratum</b> (Plot size: 5 ft radius )																				
1. <i>Solidago canadensis</i>	35	Yes	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <i>Dipsacus fullonum</i>	25	Yes	FACU																	
3. <i>Cirsium vulgare</i>	15	No	FACU																	
4. <i>Pycnanthemum virginianum</i>	10	No	FACW																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
	85	= Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																				
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
	0	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>																

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 16	10YR 4/3	100					Silt Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: <u>Gravel</u> Depth (inches): <u>6</u>	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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Remarks:  
 The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-3  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 11  
 Investigator(s): Emma Given, Michael Whitacre, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Channel Local relief (concave, convex, none): Concave Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4127879 Long: -82.0994603 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 11</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 11

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1.	<u>Cornus amomum</u>	25	Yes	FACW
2.	<u>Ulmus rubra</u>	10	Yes	FAC
3.	<u>Frangula alnus</u>	10	Yes	FAC
4.				
5.				
6.				
7.				
	45	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				
1.	<u>Phragmites australis</u>	60	Yes	FACW
2.	<u>Typha angustifolia</u>	10	No	OBL
3.	<u>Daucus carota</u>	5	No	UPL
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	75	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
	0	= Total Cover		

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

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:
OBL species	<u>10</u>	x 1 = <u>10</u>
FACW species	<u>85</u>	x 2 = <u>170</u>
FAC species	<u>20</u>	x 3 = <u>60</u>
FACU species	<u>0</u>	x 4 = <u>0</u>
UPL species	<u>5</u>	x 5 = <u>25</u>
Column Totals:	<u>120</u> (A)	<u>265</u> (B)

Prevalence Index = B/A = 2.2

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 4/1	85	10YR 6/4	15	C	M	Sandy Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Muck Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: Gravel  
 Depth (inches): 4

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-3  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 11  
 Investigator(s): Emma Given, Michael Whitacre, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4126050167 Long: -82.0993553 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 11

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> 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%</u> (A/B)														
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>395</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>100</u> (A)	<u>395</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>65</u>	x 4 = <u>260</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>100</u> (A)	<u>395</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																		
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover																		
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1.	<i>Poa annua</i>	55	Yes		FACU													
2.	<i>Equisetum arvense</i>	20	Yes		FAC													
3.	<i>Daucus carota</i>	15	No		UPL													
4.	<i>Solidago canadensis</i>	10	No		FACU													
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
1.																		
2.																		
3.																		
4.																		
<u>0</u> = Total Cover																		
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.																		



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 5/3	100					Silty Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Muck Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: <u>Fill, Gravel</u> Depth (inches): <u>4</u>	<b>Hydric Soil Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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Remarks:  
The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-3  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 12  
 Investigator(s): Emma Given, Michael Whitacre, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4121235167 Long: -82.0981888667 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 12</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>        </u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 12

	Absolute % Cover	Dominant Species?	Indicator Status																													
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																																
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> 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%</u> (A/B)																												
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
	<u>0</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th style="width:20%;">Total % Cover of:</th> <th style="width:20%;"></th> <th style="width:20%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>85</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>85</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>20</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>40</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>105</u> (A)</td> <td></td> <td style="text-align: center;"><u>125</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>1.2</u>		Total % Cover of:		Multiply by:	OBL species	<u>85</u>	x 1 =	<u>85</u>	FACW species	<u>20</u>	x 2 =	<u>40</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>105</u> (A)		<u>125</u> (B)
	Total % Cover of:		Multiply by:																													
OBL species	<u>85</u>	x 1 =	<u>85</u>																													
FACW species	<u>20</u>	x 2 =	<u>40</u>																													
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FACU species	<u>0</u>	x 4 =	<u>0</u>																													
UPL species	<u>0</u>	x 5 =	<u>0</u>																													
Column Totals:	<u>105</u> (A)		<u>125</u> (B)																													
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																																
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
	<u>0</u>	= Total Cover																														
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																																
1. <i>Typha X glauca</i>	75	Yes	OBL	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																												
2. <i>Impatiens capensis</i>	20	No	FACW																													
3. <i>Carex vulpinoidea</i>	10	No	OBL																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
8. _____	_____	_____	_____																													
9. _____	_____	_____	_____																													
10. _____	_____	_____	_____																													
11. _____	_____	_____	_____																													
12. _____	_____	_____	_____																													
	<u>105</u>	= Total Cover																														
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																																
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																												
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
	<u>0</u>	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																												

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10Y 4/1	100					Silty Clay	
3 to 16	N 4/	100					Silty Clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 16

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-3  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 12  
 Investigator(s): Emma Given, Michael Whitacre, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): Concave Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4120387667 Long: -82.0983061833 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
--	---

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

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 12

	Absolute % Cover	Dominant Species?	Indicator Status																																				
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>42.9%</u> (A/B)																																			
1.	<u>15</u>	<u>Yes</u>	<u>FAC</u>																																				
2.	<u>10</u>	<u>Yes</u>	<u>FACW</u>																																				
3.																																							
4.																																							
5.																																							
6.																																							
7.																																							
			<u>25</u> = Total Cover																																				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																																							
1.	<u>30</u>	<u>Yes</u>	<u>FACU</u>	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:15%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>30</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>60</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>40</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>120</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>135</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>540</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>5</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>25</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>210</u></td> <td>(A)</td> <td style="text-align: center;"><u>745</u></td> <td>(B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>3.5</u>		Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>30</u>	x 2 =	<u>60</u>		FAC species	<u>40</u>	x 3 =	<u>120</u>		FACU species	<u>135</u>	x 4 =	<u>540</u>		UPL species	<u>5</u>	x 5 =	<u>25</u>		Column Totals:	<u>210</u>	(A)	<u>745</u>	(B)
	Total % Cover of:		Multiply by:																																				
OBL species	<u>0</u>	x 1 =	<u>0</u>																																				
FACW species	<u>30</u>	x 2 =	<u>60</u>																																				
FAC species	<u>40</u>	x 3 =	<u>120</u>																																				
FACU species	<u>135</u>	x 4 =	<u>540</u>																																				
UPL species	<u>5</u>	x 5 =	<u>25</u>																																				
Column Totals:	<u>210</u>	(A)	<u>745</u>		(B)																																		
2.	<u>25</u>	<u>Yes</u>	<u>FAC</u>																																				
3.	<u>25</u>	<u>Yes</u>	<u>FACU</u>																																				
4.																																							
5.																																							
6.																																							
7.																																							
			<u>80</u> = Total Cover																																				
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																																							
1.	<u>50</u>	<u>Yes</u>	<u>FACU</u>																																				
2.	<u>30</u>	<u>Yes</u>	<u>FACU</u>																																				
3.	<u>20</u>	<u>No</u>	<u>FACW</u>																																				
4.	<u>5</u>	<u>No</u>	<u>UPL</u>																																				
5.																																							
6.																																							
7.																																							
8.																																							
9.																																							
10.																																							
11.																																							
12.																																							
			<u>105</u> = Total Cover																																				
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																																							
1.																																							
2.																																							
3.																																							
4.																																							
			<u>0</u> = Total Cover																																				
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																							
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>																																							

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

**SOIL**

Sampling Point: Upland 12

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 16	10YR 4/2	97	10YR 5/6	3	D	M	Silt Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Muck Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: Gravel  
 Depth (inches): 16

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:  
 The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-8  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 13  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Channel Local relief (concave, convex, none): Concave Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4147235 Long: -82.0946283 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 13</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertyping is PSS. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.



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

Sampling Point: Wetland 13

	Absolute % Cover	Dominant Species?	Indicator Status																																									
<b>Tree Stratum</b> (Plot size: 30 ft radius )																																												
1. <i>Ulmus rubra</i>	5	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																																								
2. <i>Cornus amomum</i>	5	Yes	FACW																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
	10	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:15%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">15</td> <td>x 1 =</td> <td style="text-align: center;">15</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">45</td> <td>x 2 =</td> <td style="text-align: center;">90</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">45</td> <td>x 3 =</td> <td style="text-align: center;">135</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">0</td> <td>x 4 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td>x 5 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">105</td> <td>(A)</td> <td style="text-align: center;">240</td> <td>(B)</td> </tr> <tr> <td colspan="5" style="text-align: center;">Prevalence Index = B/A = <u>2.3</u></td> </tr> </tbody> </table>		Total % Cover of:		Multiply by:		OBL species	15	x 1 =	15		FACW species	45	x 2 =	90		FAC species	45	x 3 =	135		FACU species	0	x 4 =	0		UPL species	0	x 5 =	0		Column Totals:	105	(A)	240	(B)	Prevalence Index = B/A = <u>2.3</u>				
	Total % Cover of:		Multiply by:																																									
OBL species	15	x 1 =	15																																									
FACW species	45	x 2 =	90																																									
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FACU species	0	x 4 =	0																																									
UPL species	0	x 5 =	0																																									
Column Totals:	105	(A)	240	(B)																																								
Prevalence Index = B/A = <u>2.3</u>																																												
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																																												
1. <i>Cornus amomum</i>	15	Yes	FACW																																									
2. <i>Frangula alnus</i>	15	Yes	FAC																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
	30	= Total Cover																																										
<b>Herb Stratum</b> (Plot size: 5 ft radius )																																												
1. <i>Impatiens capensis</i>	25	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																								
2. <i>Urtica dioica</i>	15	Yes	FAC																																									
3. <i>Typha angustifolia</i>	15	Yes	OBL																																									
4. <i>Eutrochium purpureum</i>	10	No	FAC																																									
5. _____	_____	_____	_____																																									
6. _____	_____	_____	_____																																									
7. _____	_____	_____	_____																																									
8. _____	_____	_____	_____																																									
9. _____	_____	_____	_____																																									
10. _____	_____	_____	_____																																									
11. _____	_____	_____	_____																																									
12. _____	_____	_____	_____																																									
	65	= Total Cover																																										
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																																												
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																								
2. _____	_____	_____	_____																																									
3. _____	_____	_____	_____																																									
4. _____	_____	_____	_____																																									
	0	= Total Cover																																										
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																																								

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 7	7.5R 3/1	95	7.5R 4/6	5	C	PL	Clay Loam	
7 to 20	10YR 6/1	65	10YR 7/6	35	D	M	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-8  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 13  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T8N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4148866 Long: -82.0931434 Datum: WGS84  
 Soil Map Unit Name: Chili loam, 0 to 2 percent slopes NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 13

	Absolute % Cover	Dominant Species?	Indicator Status																																								
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> 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)																																							
1.																																											
2.																																											
3.																																											
4.																																											
5.																																											
6.																																											
7.																																											
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>15</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>105</u></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>420</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>110</u> (A)</td> <td></td> <td style="text-align: center;"><u>435</u> (B)</td> <td></td> </tr> <tr> <td colspan="4" style="text-align: right;">Prevalence Index = B/A = <u>4</u></td> </tr> </tbody> </table>		Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>0</u>	x 2 =	<u>0</u>		FAC species	<u>5</u>	x 3 =	<u>15</u>		FACU species	<u>105</u>	x 4 =	<u>420</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>110</u> (A)		<u>435</u> (B)		Prevalence Index = B/A = <u>4</u>			
	Total % Cover of:		Multiply by:																																								
OBL species	<u>0</u>	x 1 =	<u>0</u>																																								
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Column Totals:	<u>110</u> (A)		<u>435</u> (B)																																								
Prevalence Index = B/A = <u>4</u>																																											
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																																											
1.	<u>20</u>	Yes	FACU																																								
2.																																											
3.																																											
4.																																											
5.																																											
6.																																											
7.																																											
<u>20</u> = Total Cover																																											
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																																											
1.	<u>70</u>	Yes	FACU																																								
2.	<u>10</u>	No	FACU																																								
3.	<u>5</u>	No	FACU																																								
4.																																											
5.																																											
6.																																											
7.																																											
8.																																											
9.																																											
10.																																											
11.																																											
12.																																											
<u>85</u> = Total Cover																																											
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																																											
1.	<u>5</u>	Yes	FAC																																								
2.																																											
3.																																											
4.																																											
<u>5</u> = Total Cover																																											
<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																											
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> — All woody vines greater than 3.28 ft in height.																																											
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <b>X</b> _____																																											

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 7	10YR 5/2	85	10YR 5/8	15	C	PL	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Muck Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 7

Hydric Soil Present? Yes \_\_\_\_\_ No

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield Village, Lorain County Sampling Date: 2023-8-9  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 14  
 Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4193568 Long: -82.0845709 Datum: WGS84  
 Soil Map Unit Name: Mermill loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertupe is PFO. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 14

	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																				
1. <i>Acer saccharinum</i>	25	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																
2. <i>Quercus palustris</i>	20	Yes	FACW																	
3. <i>Acer negundo</i>	20	Yes	FAC																	
4. <i>Populus deltoides</i>	10	No	FAC																	
5. _____																				
6. _____																				
7. _____																				
	<u>75</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>90</u></td> <td>x 2 = <u>180</u></td> </tr> <tr> <td>FAC species <u>45</u></td> <td>x 3 = <u>135</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>135</u> (A)</td> <td><u>315</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.3</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>90</u>	x 2 = <u>180</u>	FAC species <u>45</u>	x 3 = <u>135</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>135</u> (A)	<u>315</u> (B)	Prevalence Index = B/A = <u>2.3</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>90</u>	x 2 = <u>180</u>																			
FAC species <u>45</u>	x 3 = <u>135</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>135</u> (A)	<u>315</u> (B)																			
Prevalence Index = B/A = <u>2.3</u>																				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																				
1. <i>Fraxinus pennsylvanica</i>	5	Yes	FACW																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>5</u>	= Total Cover																		
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																				
1. <i>Carex tribuloides</i>	40	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <i>Toxicodendron radicans</i>	10	Yes	FAC																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>50</u>	= Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																				
1. <i>Vitis riparia</i>	5	Yes	FAC	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
	<u>5</u>	= Total Cover																		
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10YR 3/1	90	10YR 5/8	10	C	PL	Silty Clay Loam	
3 to 9	10YR 3/1	70	10YR 5/8	30	C	M/PL	Silty Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 9

Hydric Soil Present? Yes  No

**Remarks:**

The criterion for hydric soil is met.



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield Village, Lorain County Sampling Date: 2023-8-9  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 14  
 Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Hilltop Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4191747 Long: -82.0852121 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
---	--

Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of all three parameters, this area is an upland. Vegetation being mowed.

**HYDROLOGY**

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

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	--

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

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 14

	Absolute % Cover	Dominant Species?	Indicator Status																																				
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																																							
1.																																							
2.																																							
3.																																							
4.																																							
5.																																							
6.																																							
7.																																							
	<u>0</u>	= Total Cover																																					
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																																							
1.																																							
2.																																							
3.																																							
4.																																							
5.																																							
6.																																							
7.																																							
	<u>0</u>	= Total Cover																																					
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																																							
1.																																							
2.																																							
3.																																							
4.																																							
5.																																							
6.																																							
7.																																							
8.																																							
9.																																							
10.																																							
11.																																							
12.																																							
	<u>85</u>	= Total Cover																																					
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																																							
1.																																							
2.																																							
3.																																							
4.																																							
	<u>0</u>	= Total Cover																																					
<div style="float: right; width: 40%;"> <p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>66.7%</u> (A/B)</p> <hr/> <p><b>Prevalence Index worksheet:</b></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;"></th> <th style="width:20%; text-align:center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:20%; text-align:center;">Multiply by:</th> <th style="width:10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align:center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>0</u></td> <td>x 2 =</td> <td style="text-align:center;"><u>0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>40</u></td> <td>x 3 =</td> <td style="text-align:center;"><u>120</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>45</u></td> <td>x 4 =</td> <td style="text-align:center;"><u>180</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align:center;"><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>85</u> (A)</td> <td></td> <td style="text-align:center;"><u>300</u> (B)</td> <td></td> </tr> </tbody> </table> <p style="text-align: center;">Prevalence Index = B/A = <u>3.5</u></p> <hr/> <p><b>Hydrophytic Vegetation Indicators:</b></p> <p><u>  </u> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input checked="" type="checkbox"/> 2 - Dominance Test is &gt;50%</p> <p><u>  </u> 3 - Prevalence Index is ≤3.0<sup>1</sup></p> <p><u>  </u> 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><u>  </u> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <hr/> <p><b>Definitions of Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.</p> <hr/> <p><b>Hydrophytic Vegetation Present?</b>      Yes <input checked="" type="checkbox"/>      No <input type="checkbox"/></p> </div> <div style="clear: both;"></div>						Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>0</u>	x 2 =	<u>0</u>		FAC species	<u>40</u>	x 3 =	<u>120</u>		FACU species	<u>45</u>	x 4 =	<u>180</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>85</u> (A)		<u>300</u> (B)	
	Total % Cover of:		Multiply by:																																				
OBL species	<u>0</u>	x 1 =	<u>0</u>																																				
FACW species	<u>0</u>	x 2 =	<u>0</u>																																				
FAC species	<u>40</u>	x 3 =	<u>120</u>																																				
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UPL species	<u>0</u>	x 5 =	<u>0</u>																																				
Column Totals:	<u>85</u> (A)		<u>300</u> (B)																																				
<p>Remarks: (Include photo numbers here or on a separate sheet.)</p> <p>The criterion for hydrophytic vegetation is not met.</p>																																							

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 5	10YR 3/3	100					Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b></p>	<p><input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR R, MLRA 149B)</b></p> <p><input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR R, MLRA 149B)</b></p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR K, L)</b></p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10) <b>(LRR K, L, MLRA 149B)</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) <b>(LRR K, L, R)</b></p> <p><input type="checkbox"/> 5 cm Muck Peat or Peat (S3) <b>(LRR K, L, R)</b></p> <p><input type="checkbox"/> Dark Surface (S7) <b>(LRR K, L)</b></p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR K, L)</b></p> <p><input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR K, L)</b></p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR K, L, R)</b></p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149B)</b></p> <p><input type="checkbox"/> Mesic Spodic (TA6) <b>(MLRA 144A, 145, 149B)</b></p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if present):</b></p> <p>Type: <u>Fill</u></p> <p>Depth (inches): <u>5</u></p>	<p><b>Hydric Soil Present?</b> Yes _____ No <b>X</b></p>
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Remarks:

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Avon, Lorain County Sampling Date: 2023-8-11  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 15  
 Investigator(s): Emma Given, Jenna Slabe Section, Township, Range: T7N R16W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4638212 Long: -82.0516432 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 15</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 15

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1. <u>Quercus palustris</u>	15	Yes	FACW	<b>Dominance Test worksheet:</b> 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%</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	15	= Total Cover																
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																		
1. <u>Cornus amomum</u>	10	Yes	FACW	<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="text-align:right">Total % Cover of:</td> <td style="text-align:right">Multiply by:</td> </tr> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30</u></td> </tr> <tr> <td>FACW species <u>95</u></td> <td>x 2 = <u>190</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>220</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.8</u>	Total % Cover of:	Multiply by:	OBL species <u>30</u>	x 1 = <u>30</u>	FACW species <u>95</u>	x 2 = <u>190</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>220</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>30</u>	x 1 = <u>30</u>																	
FACW species <u>95</u>	x 2 = <u>190</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>125</u> (A)	<u>220</u> (B)																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	10	= Total Cover																
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																		
1. <u>Phragmites australis</u>	60	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Lythrum salicaria</u>	30	Yes	OBL															
3. <u>Juncus torreyi</u>	10	No	FACW															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	100	= Total Cover																
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1. _____				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
	0	= Total Cover																
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____														

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10YR 3/1	95	10YR 5/8	5	C	PL	Clay Loam	
3 to 7	10YR 6/1	75	10YR 7/6	25	D	M	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 7

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Avon, Lorain County Sampling Date: 2023-8-11  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 15  
 Investigator(s): Emma Given, Jenna Slabe Section, Township, Range: T7N R16W  
 Landform (hillslope, terrace, etc): Foot slope Local relief (concave, convex, none): None Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.463751 Long: -82.051701 Datum: WGS84  
 Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes NWI Classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is UPL. Based on the absence of two of three parameters, this area is an upland.	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <table style="width:100%;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p><u>Secondary Indicators (minimum of two required)</u></p> <table style="width:100%;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<p><b>Field Observations:</b></p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<p><b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b></p>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is not met.																																

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

Sampling Point: Upland 15

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> 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%</u> (A/B)														
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>350</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4.1</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>85</u> (A)	<u>350</u> (B)
Total % Cover of:	Multiply by:																	
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Column Totals: <u>85</u> (A)	<u>350</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																		
1.	<u>10</u>	Yes	FACW															
2.		No	FACW															
3.																		
4.																		
5.																		
6.																		
7.																		
<u>10</u> = Total Cover																		
<b>Herb Stratum</b> (Plot size: 5 ft radius )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1.	<u>60</u>	Yes	FACU															
2.	<u>10</u>	No	FACU															
3.	<u>10</u>	No	UPL															
4.	<u>5</u>	No	FACU															
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
<u>85</u> = Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
1.																		
2.																		
3.																		
4.																		
<u>0</u> = Total Cover																		
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <b>X</b>																		
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.																		



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10YR 4/3	100					Clay Loam	
3 to 6	N 7/	60	7.5YR 6/8	40	D	M	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 6

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield, Lorain County Sampling Date: 2023-8-14  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 16  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4491586 Long: -82.0715285 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>Wetland 16</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertupe is PSS. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

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

<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
--	---

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

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 16

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: 30 ft radius )																									
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> 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%</u> (A/B)																					
2. _____	_____	_____	_____																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
5. _____	_____	_____	_____																						
6. _____	_____	_____	_____																						
7. _____	_____	_____	_____																						
	<u>0</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%;">Total % Cover of:</th> <th style="width:25%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 1 = <u>10</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>90</u></td> <td style="text-align: center;">x 2 = <u>180</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>15</u></td> <td style="text-align: center;">x 3 = <u>45</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x 4 = <u>20</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>120</u> (A)</td> <td style="text-align: center;"><u>255</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.1</u>		Total % Cover of:	Multiply by:	OBL species	<u>10</u>	x 1 = <u>10</u>	FACW species	<u>90</u>	x 2 = <u>180</u>	FAC species	<u>15</u>	x 3 = <u>45</u>	FACU species	<u>5</u>	x 4 = <u>20</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>120</u> (A)	<u>255</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>10</u>	x 1 = <u>10</u>																							
FACW species	<u>90</u>	x 2 = <u>180</u>																							
FAC species	<u>15</u>	x 3 = <u>45</u>																							
FACU species	<u>5</u>	x 4 = <u>20</u>																							
UPL species	<u>0</u>	x 5 = <u>0</u>																							
Column Totals:	<u>120</u> (A)	<u>255</u> (B)																							
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																									
1. <u>Cornus amomum</u>	10	Yes	FACW																						
2. <u>Cornus drummondii</u>	10	Yes	FAC																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
5. _____	_____	_____	_____																						
6. _____	_____	_____	_____																						
7. _____	_____	_____	_____																						
	<u>20</u>	= Total Cover																							
<b>Herb Stratum</b> (Plot size: 5 ft radius )																									
1. <u>Phragmites australis</u>	80	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
2. <u>Lythrum salicaria</u>	10	No	OBL																						
3. <u>Rumex crispus</u>	5	No	FAC																						
4. <u>Solidago canadensis</u>	5	No	FACU																						
5. _____	_____	_____	_____																						
6. _____	_____	_____	_____																						
7. _____	_____	_____	_____																						
8. _____	_____	_____	_____																						
9. _____	_____	_____	_____																						
10. _____	_____	_____	_____																						
11. _____	_____	_____	_____																						
12. _____	_____	_____	_____																						
	<u>100</u>	= Total Cover																							
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																									
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
2. _____	_____	_____	_____																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
	<u>0</u>	= Total Cover																							
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																					

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 5	10YR 5/1	80	10YR 6/6	20	C	M/PL	Sandy Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Muck Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Gravel  
Depth (inches): 5

Hydric Soil Present? Yes  No

Remarks:  
The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield Lake, Lorain County Sampling Date: 2023-8-14  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 16  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4482891 Long: -82.0721433 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertpe is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 16

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0			= Total Cover
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0			= Total Cover
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				
1.				
1.	40	Yes		FACU
2.	30	Yes		FAC
3.	15	No		FACU
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	85			= Total Cover
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
	0			= Total Cover
<b>Remarks:</b> (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>55</u>	x 4 = <u>220</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>85</u> (A)	<u>310</u> (B)

Prevalence Index = B/A = 3.6

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation  
   2 - Dominance Test is >50%  
   3 - Prevalence Index is ≤3.0<sup>1</sup>  
   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes             No   X

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 4/4	100					Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR R, MLRA 149B)</b> <input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR R, MLRA 149B)</b> <input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR K, L)</b> <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 2 cm Muck (A10) <b>(LRR K, L, MLRA 149B)</b> <input type="checkbox"/> Coast Prairie Redox (A16) <b>(LRR K, L, R)</b> <input type="checkbox"/> 5 cm Muck Peat or Peat (S3) <b>(LRR K, L, R)</b> <input type="checkbox"/> Dark Surface (S7) <b>(LRR K, L)</b> <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR K, L)</b> <input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR K, L)</b> <input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR K, L, R)</b> <input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149B)</b> <input type="checkbox"/> Mesic Spodic (TA6) <b>(MLRA 144A, 145, 149B)</b> <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: <u>Gravel</u> Depth (inches): <u>4</u>	Hydric Soil Present? Yes _____ No <b>X</b>
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Remarks:  
 The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield, Lorain County Sampling Date: 2023-8-14  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 17  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.442754 Long: -82.076434 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 17</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.



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

Sampling Point: Wetland 17

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0			= Total Cover
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1.	40	Yes	FACW	
2.	30	Yes	OBL	
3.	10	No	OBL	
4.				
5.				
6.				
7.				
	80			= Total Cover
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	0			= Total Cover
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
	0			= Total Cover

**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 species	40	x 1 =	40	
FACW species	40	x 2 =	80	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	80	(A)	120	(B)

Prevalence Index = B/A = 1.5

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**  
**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 7	10YR 3/1	85	10YR 6/8	15	C	M/PL	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Muck Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		<input type="checkbox"/> Other (Explain in Remarks)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: <u>Gravel</u> Depth (inches): <u>7</u>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield Lake, Lorain County Sampling Date: 2023-8-14  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 17  
 Investigator(s): Emma Given Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4426747 Long: -82.0765133 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertpe is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 17

	Absolute % Cover	Dominant Species?	Indicator Status																																								
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>40%</u> (A/B)																																							
1.																																											
2.																																											
3.																																											
4.																																											
5.																																											
6.																																											
7.																																											
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>30</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>40</u></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>160</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>50</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>60</u> (A)</td> <td></td> <td style="text-align: center;"><u>240</u> (B)</td> <td></td> </tr> <tr> <td colspan="4" style="text-align: right;">Prevalence Index = B/A = <u>4</u></td> </tr> </tbody> </table>		Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>0</u>	x 2 =	<u>0</u>		FAC species	<u>10</u>	x 3 =	<u>30</u>		FACU species	<u>40</u>	x 4 =	<u>160</u>		UPL species	<u>10</u>	x 5 =	<u>50</u>		Column Totals:	<u>60</u> (A)		<u>240</u> (B)		Prevalence Index = B/A = <u>4</u>			
	Total % Cover of:		Multiply by:																																								
OBL species	<u>0</u>	x 1 =	<u>0</u>																																								
FACW species	<u>0</u>	x 2 =	<u>0</u>																																								
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Column Totals:	<u>60</u> (A)		<u>240</u> (B)																																								
Prevalence Index = B/A = <u>4</u>																																											
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																																											
1.	<u>Cornus drummondii</u>	<u>5</u>	Yes	FAC																																							
2.																																											
3.																																											
4.																																											
5.																																											
6.																																											
7.																																											
<u>5</u> = Total Cover																																											
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																							
1.	<u>Solidago canadensis</u>	<u>25</u>	Yes		FACU																																						
2.	<u>Erigeron strigosus</u>	<u>10</u>	Yes		FACU																																						
3.	<u>Hypericum perforatum</u>	<u>10</u>	Yes		UPL																																						
4.	<u>Rubus allegheniensis</u>	<u>5</u>	No		FACU																																						
5.																																											
6.																																											
7.																																											
8.																																											
9.																																											
10.																																											
11.																																											
12.																																											
<u>50</u> = Total Cover																																											
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																							
1.	<u>Vitis riparia</u>	<u>5</u>	Yes		FAC																																						
2.																																											
3.																																											
4.																																											
<u>5</u> = Total Cover																																											
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <b>X</b> _____																																											
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.																																											

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 2	10YR 4/3	100					Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 2

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield Lake, Lorain County Sampling Date: 2023-8-14  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 18  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.439341 Long: -82.0789386 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>Wetland 18</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) _____ <input checked="" type="checkbox"/> High Water Table (A2) _____ <input checked="" type="checkbox"/> Saturation (A3) _____ _____ Water Marks (B1) _____ _____ Sediment Deposits (B2) _____ _____ Drift Deposits (B3) _____ _____ Algal Mat or Crust (B4) _____ _____ Iron Deposits (B5) _____ _____ Inundation Visible on Aerial Imagery (B7) _____ _____ Sparsely Vegetated Concave Surface (B8) _____ _____ Water-Stained Leaves (B9) _____ _____ Aquatic Fauna (B13) _____ _____ Marl Deposits (B15) _____ _____ Hydrogen Sulfide Odor (C1) _____ <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) _____ _____ Presence of Reduced Iron (C4) _____ _____ Recent Iron Reduction in Tilled Soils (C6) _____ _____ Thin Muck Surface (C7) _____ _____ Other (Explain in Remarks) _____	<b>Secondary Indicators (minimum of two required)</b> _____ Surface Soil Cracks (B6) _____ _____ Drainage Patterns (B10) _____ _____ Moss Trim Lines (B16) _____ _____ Dry-Season Water Table (C2) _____ _____ Crayfish Burrows (C8) _____ _____ Saturation Visible on Aerial Imagery (C9) _____ _____ Stunted or Stressed Plants (D1) _____ _____ Geomorphic Position (D2) _____ _____ Shallow Aquitard (D3) _____ _____ Microtopographic Relief (D4) _____ <input checked="" type="checkbox"/> FAC-Neutral Test (D5) _____
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>41</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 18

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1.	<u>Cornus amomum</u>	15	Yes	FACW
2.				
3.				
4.				
5.				
6.				
7.				
	15	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				
1.	<u>Typha angustifolia</u>	30	Yes	OBL
2.	<u>Juncus torreyi</u>	20	Yes	FACW
3.	<u>Juncus effusus</u>	10	No	OBL
4.	<u>Carex vulpinoidea</u>	5	No	OBL
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	65	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
	0	= Total Cover		

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:
OBL species	<u>45</u>	x 1 = <u>45</u>
FACW species	<u>35</u>	x 2 = <u>70</u>
FAC species	<u>0</u>	x 3 = <u>0</u>
FACU species	<u>0</u>	x 4 = <u>0</u>
UPL species	<u>0</u>	x 5 = <u>0</u>
Column Totals:	<u>80</u> (A)	<u>115</u> (B)

Prevalence Index = B/A = 1.4

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**  
**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 7	10YR 5/1	75	10YR 6/6	25	C	M/PL	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: Gravel  
 Depth (inches): 7

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield Lake, Lorain County Sampling Date: 2023-8-14  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 18  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.439239 Long: -82.078958 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypc is UPL. Based on the absence of two of three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

VEGETATION – Use scientific names of plants.

Sampling Point: Upland 18

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: 30 ft radius )																									
1. <i>Cornus drummondii</i>	5	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>57.1%</u> (A/B)																					
2. <i>Ulmus rubra</i>	5	Yes	FAC																						
3. <i>Quercus palustris</i>	5	Yes	FACW																						
4. _____																									
5. _____																									
6. _____																									
7. _____																									
	<u>15</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%;">Total % Cover of:</th> <th style="width:25%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;">x 2 = <u>10</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>20</u></td> <td style="text-align: center;">x 3 = <u>60</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>25</u></td> <td style="text-align: center;">x 4 = <u>100</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>60</u> (A)</td> <td style="text-align: center;"><u>220</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>3.7</u>		Total % Cover of:	Multiply by:	OBL species	<u>0</u>	x 1 = <u>0</u>	FACW species	<u>5</u>	x 2 = <u>10</u>	FAC species	<u>20</u>	x 3 = <u>60</u>	FACU species	<u>25</u>	x 4 = <u>100</u>	UPL species	<u>10</u>	x 5 = <u>50</u>	Column Totals:	<u>60</u> (A)	<u>220</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>0</u>	x 1 = <u>0</u>																							
FACW species	<u>5</u>	x 2 = <u>10</u>																							
FAC species	<u>20</u>	x 3 = <u>60</u>																							
FACU species	<u>25</u>	x 4 = <u>100</u>																							
UPL species	<u>10</u>	x 5 = <u>50</u>																							
Column Totals:	<u>60</u> (A)	<u>220</u> (B)																							
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																									
1. _____																									
2. _____																									
3. _____																									
4. _____																									
5. _____																									
6. _____																									
7. _____																									
	<u>0</u>	= Total Cover																							
<b>Herb Stratum</b> (Plot size: 5 ft radius )																									
1. <i>Toxicodendron radicans</i>	10	Yes	FAC	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
2. <i>Asclepias syriaca</i>	10	Yes	UPL																						
3. <i>Rosa multiflora</i>	10	Yes	FACU																						
4. <i>Rubus allegheniensis</i>	10	Yes	FACU																						
5. <i>Achillea millefolium</i>	5	No	FACU																						
6. _____																									
7. _____																									
8. _____																									
9. _____																									
10. _____																									
11. _____																									
12. _____																									
	<u>45</u>	= Total Cover																							
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																									
1. _____				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
2. _____																									
3. _____																									
4. _____																									
	<u>0</u>	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																					

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 7	10YR 4/2	100					Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 7

Hydric Soil Present? Yes \_\_\_\_\_ No

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield, Lorain County Sampling Date: 2023-8-14  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 19  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Channel Local relief (concave, convex, none): Concave Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4377815 Long: -82.0801675 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 19</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

VEGETATION – Use scientific names of plants.

Sampling Point: Wetland 19

	Absolute % Cover	Dominant Species?	Indicator Status																																				
<b>Tree Stratum</b> (Plot size: 30 ft radius )																																							
1. <i>Fraxinus pennsylvanica</i>	5	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85.7%</u> (A/B)																																			
2. <i>Ulmus rubra</i>	5	Yes	FAC																																				
3. _____																																							
4. _____																																							
5. _____																																							
6. _____																																							
7. _____																																							
	10	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th style="width:10%;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%;">Multiply by:</th> <th style="width:10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">20</td> <td>x 1 =</td> <td style="text-align: center;">20</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">55</td> <td>x 2 =</td> <td style="text-align: center;">110</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">5</td> <td>x 3 =</td> <td style="text-align: center;">15</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">10</td> <td>x 4 =</td> <td style="text-align: center;">40</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td>x 5 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">90</td> <td>(A)</td> <td style="text-align: center;">185</td> <td>(B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.1</u>		Total % Cover of:		Multiply by:		OBL species	20	x 1 =	20		FACW species	55	x 2 =	110		FAC species	5	x 3 =	15		FACU species	10	x 4 =	40		UPL species	0	x 5 =	0		Column Totals:	90	(A)	185	(B)
	Total % Cover of:		Multiply by:																																				
OBL species	20	x 1 =	20																																				
FACW species	55	x 2 =	110																																				
FAC species	5	x 3 =	15																																				
FACU species	10	x 4 =	40																																				
UPL species	0	x 5 =	0																																				
Column Totals:	90	(A)	185	(B)																																			
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																																							
1. _____																																							
2. _____																																							
3. _____																																							
4. _____																																							
5. _____																																							
6. _____																																							
7. _____																																							
	0	= Total Cover																																					
<b>Herb Stratum</b> (Plot size: 5 ft radius )																																							
1. <i>Phragmites australis</i>	25	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																			
2. <i>Asclepias incarnata</i>	10	Yes	OBL																																				
3. <i>Lythrum salicaria</i>	10	Yes	OBL																																				
4. <i>Glechoma hederacea</i>	10	Yes	FACU																																				
5. _____																																							
6. _____																																							
7. _____																																							
8. _____																																							
9. _____																																							
10. _____																																							
11. _____																																							
12. _____																																							
	55	= Total Cover																																					
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																																							
1. <i>Phragmites australis</i>	25	Yes	FACW	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																			
2. _____																																							
3. _____																																							
4. _____																																							
	25	= Total Cover																																					
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																																			

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 4/1	100					Sandy Loam	
4 to 10	10YR 4/1	80	10YR 5/6	20	C	M/PL	Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 10

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield, Lorain County Sampling Date: 2023-8-14  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 19  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Foot slope Local relief (concave, convex, none): None Slope (%): 1 to 10  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4377202 Long: -82.0801522 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

VEGETATION – Use scientific names of plants.

Sampling Point: Upland 19

	Absolute % Cover	Dominant Species?	Indicator Status																																									
<b>Tree Stratum</b> (Plot size: 30 ft radius )																																												
1. <i>Ulmus rubra</i>	10	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>42.9%</u> (A/B)																																								
2. <i>Acer negundo</i>	5	Yes	FAC																																									
3. _____																																												
4. _____																																												
5. _____																																												
6. _____																																												
7. _____																																												
	15	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:15%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td>x 1 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">5</td> <td>x 2 =</td> <td style="text-align: center;">10</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">15</td> <td>x 3 =</td> <td style="text-align: center;">45</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">20</td> <td>x 4 =</td> <td style="text-align: center;">80</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">20</td> <td>x 5 =</td> <td style="text-align: center;">100</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">60</td> <td>(A)</td> <td style="text-align: center;">235</td> <td>(B)</td> </tr> <tr> <td colspan="5" style="text-align: center;">Prevalence Index = B/A = <u>3.9</u></td> </tr> </tbody> </table>		Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0		FACW species	5	x 2 =	10		FAC species	15	x 3 =	45		FACU species	20	x 4 =	80		UPL species	20	x 5 =	100		Column Totals:	60	(A)	235	(B)	Prevalence Index = B/A = <u>3.9</u>				
	Total % Cover of:		Multiply by:																																									
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Column Totals:	60	(A)	235	(B)																																								
Prevalence Index = B/A = <u>3.9</u>																																												
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																																												
1. <i>Elaeagnus umbellata</i>	15	Yes	NI																																									
2. <i>Cornus amomum</i>	5	Yes	FACW																																									
3. _____																																												
4. _____																																												
5. _____																																												
6. _____																																												
7. _____																																												
	20	= Total Cover																																										
<b>Herb Stratum</b> (Plot size: 5 ft radius )																																												
1. <i>Solidago canadensis</i>	15	Yes	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																								
2. <i>Apocynum androsaemifolium</i>	10	Yes	UPL																																									
3. <i>Asclepias syriaca</i>	10	Yes	UPL																																									
4. <i>Dipsacus laciniatus</i>	5	No	FACU																																									
5. _____																																												
6. _____																																												
7. _____																																												
8. _____																																												
9. _____																																												
10. _____																																												
11. _____																																												
12. _____																																												
	40	= Total Cover																																										
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																																												
1. _____				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																								
2. _____																																												
3. _____																																												
4. _____																																												
	0	= Total Cover																																										
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>																																								

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.



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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10YR 4/3	100					Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Muck Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 3

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:  
 The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield Lake, Lorain County Sampling Date: 2023-8-15  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 20  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4372213 Long: -82.0809589 Datum: WGS84  
 Soil Map Unit Name: Miner silty clay loam, shale substratum, 0 to 2 percent slopes NWI Classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 20</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PFO. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 20

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1. <u>Quercus palustris</u>	70	Yes	FACW	<b>Dominance Test worksheet:</b> 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%</u> (A/B)														
2. <u>Populus deltoides</u>	15	No	FAC															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	85	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="text-align:right">Total % Cover of:</td> <td style="text-align:right">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>210</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u> (A)	<u>210</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>75</u>	x 2 = <u>150</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>95</u> (A)	<u>210</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																		
1. <u>Fraxinus pennsylvanica</u>	5	Yes	FACW															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	5	= Total Cover																
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																		
1. _____				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	0	= Total Cover																
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1. <u>Vitis riparia</u>	5	Yes	FAC	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> — All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
	5	= Total Cover																
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____														
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is met.																		

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 4/2	85	10YR 6/6	15	RM	M/PL	Clay Loam	
4 to 10	10YR 5/1	70	10YR 6/8	30	C	M	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 10

Hydric Soil Present? Yes  No

**Remarks:**

The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield, Lorain County Sampling Date: 2023-8-15  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 20  
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4359965 Long: -82.081448 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypc is UPL. Based on the absence of two of three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Upland 20

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)																					
1.																									
2.																									
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<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;"></th> <th style="width:20%;">Total % Cover of:</th> <th style="width:20%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 2 = <u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>80</u></td> <td style="text-align: center;">x 4 = <u>320</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>90</u> (A)</td> <td style="text-align: center;"><u>370</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4.1</u>		Total % Cover of:	Multiply by:	OBL species	<u>0</u>	x 1 = <u>0</u>	FACW species	<u>0</u>	x 2 = <u>0</u>	FAC species	<u>0</u>	x 3 = <u>0</u>	FACU species	<u>80</u>	x 4 = <u>320</u>	UPL species	<u>10</u>	x 5 = <u>50</u>	Column Totals:	<u>90</u> (A)	<u>370</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>0</u>	x 1 = <u>0</u>																							
FACW species	<u>0</u>	x 2 = <u>0</u>																							
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FACU species	<u>80</u>	x 4 = <u>320</u>																							
UPL species	<u>10</u>	x 5 = <u>50</u>																							
Column Totals:	<u>90</u> (A)	<u>370</u> (B)																							
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																									
1.	<u>Elaeagnus umbellata</u>	30	Yes	NI																					
2.	<u>Lonicera japonica</u>	25	Yes	FACU																					
3.																									
4.																									
5.																									
6.																									
7.																									
<u>55</u> = Total Cover																									
<b>Herb Stratum</b> (Plot size: 5 ft radius )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
1.	<u>Poa pratensis</u>	45	Yes		FACU																				
2.	<u>Daucus carota</u>	10	No		UPL																				
3.	<u>Lotus tenuis</u>	5	No		FACU																				
4.	<u>Solidago canadensis</u>	5	No		FACU																				
5.																									
6.																									
7.																									
8.																									
9.																									
10.																									
11.																									
12.																									
<u>65</u> = Total Cover																									
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
1.																									
2.																									
3.																									
4.																									
<u>0</u> = Total Cover																									
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <b>X</b>																									
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.																									

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 8	10YR 4/3	100					Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Muck Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Gravel  
 Depth (inches): 8

Hydric Soil Present? Yes \_\_\_\_\_ No

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Avon, Lorain County Sampling Date: 2023-8-9  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 21  
 Investigator(s): Jenna Slabe, Lily Sobey Section, Township, Range: T7N R16W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4647384667 Long: -82.0525958333 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 21</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.



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

Sampling Point: Wetland 21

	Absolute % Cover	Dominant Species?	Indicator Status																									
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> 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%</u> (A/B)																								
1.																												
2.																												
3.																												
4.																												
5.																												
6.																												
7.																												
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%;">Total % Cover of:</th> <th style="width:25%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>85</u></td> <td style="text-align: center;">x 1 = <u>85</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>25</u></td> <td style="text-align: center;">x 2 = <u>50</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>110</u> (A)</td> <td style="text-align: center;"><u>135</u> (B)</td> </tr> <tr> <td colspan="3" style="text-align: center;">Prevalence Index = B/A = <u>1.2</u></td> </tr> </tbody> </table>		Total % Cover of:	Multiply by:	OBL species	<u>85</u>	x 1 = <u>85</u>	FACW species	<u>25</u>	x 2 = <u>50</u>	FAC species	<u>0</u>	x 3 = <u>0</u>	FACU species	<u>0</u>	x 4 = <u>0</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>110</u> (A)	<u>135</u> (B)	Prevalence Index = B/A = <u>1.2</u>		
	Total % Cover of:	Multiply by:																										
OBL species	<u>85</u>	x 1 = <u>85</u>																										
FACW species	<u>25</u>	x 2 = <u>50</u>																										
FAC species	<u>0</u>	x 3 = <u>0</u>																										
FACU species	<u>0</u>	x 4 = <u>0</u>																										
UPL species	<u>0</u>	x 5 = <u>0</u>																										
Column Totals:	<u>110</u> (A)	<u>135</u> (B)																										
Prevalence Index = B/A = <u>1.2</u>																												
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																												
1.	<u>Cornus amomum</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																								
2.																												
3.																												
4.																												
5.																												
6.																												
7.																												
<u>5</u> = Total Cover																												
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
1.	<u>Lythrum salicaria</u>	<u>85</u>	<u>Yes</u>		<u>OBL</u>																							
2.	<u>Phragmites australis</u>	<u>20</u>	<u>No</u>		<u>FACW</u>																							
3.																												
4.																												
5.																												
6.																												
7.																												
8.																												
9.																												
10.																												
11.																												
12.																												
<u>105</u> = Total Cover																												
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																								
1.																												
2.																												
3.																												
4.																												
<u>0</u> = Total Cover																												
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																												

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 4/1	90	10YR 5/8	10	C	M/PL	Silty Clay Loam	
4 to 20	10YR 4/1	75	10YR 5/8	15	C	M/PL	Clay Loam	
4 to 20	10YR 5/1	10					Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Avon, Lorain County Sampling Date: 2023-8-9  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 21  
 Investigator(s): Jenna Slabe, Lily Sobey Section, Township, Range: T7N R16W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.464768136 Long: -82.0522944164 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 21

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)																					
1.																									
2.																									
3.																									
4.																									
5.																									
6.																									
7.																									
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;"></th> <th style="width:20%;">Total % Cover of:</th> <th style="width:20%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 2 = <u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>70</u></td> <td style="text-align: center;">x 4 = <u>280</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>35</u></td> <td style="text-align: center;">x 5 = <u>175</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>105</u> (A)</td> <td style="text-align: center;"><u>455</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4.3</u>		Total % Cover of:	Multiply by:	OBL species	<u>0</u>	x 1 = <u>0</u>	FACW species	<u>0</u>	x 2 = <u>0</u>	FAC species	<u>0</u>	x 3 = <u>0</u>	FACU species	<u>70</u>	x 4 = <u>280</u>	UPL species	<u>35</u>	x 5 = <u>175</u>	Column Totals:	<u>105</u> (A)	<u>455</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>0</u>	x 1 = <u>0</u>																							
FACW species	<u>0</u>	x 2 = <u>0</u>																							
FAC species	<u>0</u>	x 3 = <u>0</u>																							
FACU species	<u>70</u>	x 4 = <u>280</u>																							
UPL species	<u>35</u>	x 5 = <u>175</u>																							
Column Totals:	<u>105</u> (A)	<u>455</u> (B)																							
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																									
1.	<i>Elaeagnus umbellata</i>	10	Yes	NI																					
2.																									
3.																									
4.																									
5.																									
6.																									
7.																									
<u>10</u> = Total Cover																									
<b>Herb Stratum</b> (Plot size: 5 ft radius )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
1.	<i>Poa annua</i>	55	Yes		FACU																				
2.	<i>Daucus carota</i>	25	Yes		UPL																				
3.	<i>Solidago canadensis</i>	15	No		FACU																				
4.	<i>Asclepias syriaca</i>	10	No		UPL																				
5.																									
6.																									
7.																									
8.																									
9.																									
10.																									
11.																									
12.																									
<u>105</u> = Total Cover																									
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
1.																									
2.																									
3.																									
4.																									
<u>0</u> = Total Cover																									
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <b>X</b> _____																					

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

**SOIL**

Sampling Point: Upland 21

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10YR 3/2	100					Silt Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Fill, Gravel  
 Depth (inches): 3

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-7-31  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 22  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Swale Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4038129 Long: -82.1388401 Datum: WGS84  
 Soil Map Unit Name: Jimtown sandy loam, 0 to 2 percent slopes NWI Classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 22</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is PFO. Based on the presence of all three parameters, this area is a wetland. Ditches/drain tiles observed.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 22

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1. <u>Quercus palustris</u>	25	Yes	FACW	<b>Dominance Test worksheet:</b> 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%</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	25	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="text-align:right">Total % Cover of:</td> <td style="text-align:right">Multiply by:</td> </tr> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30</u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>230</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.8</u>	Total % Cover of:	Multiply by:	OBL species <u>30</u>	x 1 = <u>30</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>130</u> (A)	<u>230</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>30</u>	x 1 = <u>30</u>																	
FACW species <u>100</u>	x 2 = <u>200</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>130</u> (A)	<u>230</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	0	= Total Cover																
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																		
1. <u>Phragmites australis</u>	30	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Juncus torreyi</u>	25	Yes	FACW															
3. <u>Dichanthelium clandestinum</u>	20	No	FACW															
4. <u>Lythrum salicaria</u>	15	No	OBL															
5. <u>Glyceria striata</u>	10	No	OBL															
6. <u>Typha angustifolia</u>	5	No	OBL															
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	105	= Total Cover																
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
	0	= Total Cover																
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 2	2.5Y 4/2	95	10YR 5/6	5	C	PL	Sandy Loam	
2 to 20	2.5Y 7/1	70	2.5Y 6/8	30	C	M/PL	Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Muck Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

The criterion for hydric soil is met.



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-7-31  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 22  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T8N R17W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.403791 Long: -82.1388058 Datum: WGS84  
 Soil Map Unit Name: Mermill loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of all three parameters, this area is an upland. Vegetation being mowed.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 22

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 ft radius )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
<b>Herb Stratum</b> (Plot size: 5 ft radius )				
1.	<i>Poa annua</i>	75	Yes	FACU
2.	<i>Apocynum cannabinum</i>	20	No	FAC
3.	<i>Cirsium vulgare</i>	20	No	FACU
4.	<i>Daucus carota</i>	5	No	UPL
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	120	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				
1.				
2.				
3.				
4.				
	0	= Total Cover		

<b>Dominance Test worksheet:</b>	
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% (A/B)
<b>Prevalence Index worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 20	x 3 = 60
FACU species 95	x 4 = 380
UPL species 5	x 5 = 25
Column Totals: 120 (A)	465 (B)
Prevalence Index = B/A = 3.9	
<b>Hydrophytic Vegetation Indicators:</b>	
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
<input type="checkbox"/> 2 - Dominance Test is >50%	
<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata:</b>	
<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>	

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10YR 3/2	100					Silt Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Muck Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: Fill  
 Depth (inches): 3

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-7-31  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 23  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Channel Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4042724 Long: -82.1459235 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 23</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PSS. Based on the presence of all three parameters, this area is a wetland. Ditches/drain tiles observed.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 23

	Absolute % Cover	Dominant Species?	Indicator Status																									
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> 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%</u> (A/B)																								
1.																												
2.																												
3.																												
4.																												
5.																												
6.																												
7.																												
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%;">Total % Cover of:</th> <th style="width:25%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>60</u></td> <td style="text-align: center;">x 1 = <u>60</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>70</u></td> <td style="text-align: center;">x 2 = <u>140</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>130</u> (A)</td> <td style="text-align: center;"><u>200</u> (B)</td> </tr> <tr> <td colspan="3" style="text-align: center;">Prevalence Index = B/A = <u>1.5</u></td> </tr> </tbody> </table>		Total % Cover of:	Multiply by:	OBL species	<u>60</u>	x 1 = <u>60</u>	FACW species	<u>70</u>	x 2 = <u>140</u>	FAC species	<u>0</u>	x 3 = <u>0</u>	FACU species	<u>0</u>	x 4 = <u>0</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>130</u> (A)	<u>200</u> (B)	Prevalence Index = B/A = <u>1.5</u>		
	Total % Cover of:	Multiply by:																										
OBL species	<u>60</u>	x 1 = <u>60</u>																										
FACW species	<u>70</u>	x 2 = <u>140</u>																										
FAC species	<u>0</u>	x 3 = <u>0</u>																										
FACU species	<u>0</u>	x 4 = <u>0</u>																										
UPL species	<u>0</u>	x 5 = <u>0</u>																										
Column Totals:	<u>130</u> (A)	<u>200</u> (B)																										
Prevalence Index = B/A = <u>1.5</u>																												
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																												
1.	<u>Cornus amomum</u>	30	Yes	FACW																								
2.																												
3.																												
4.																												
5.																												
6.																												
7.																												
<u>30</u> = Total Cover																												
<b>Herb Stratum</b> (Plot size: 5 ft radius )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
1.	<u>Typha angustifolia</u>	45	Yes		OBL																							
2.	<u>Spiraea alba</u>	20	Yes		FACW																							
3.	<u>Carex vulpinoidea</u>	15	No		OBL																							
4.	<u>Juncus torreyi</u>	15	No		FACW																							
5.	<u>Mentha arvensis</u>	5	No		FACW																							
6.																												
7.																												
8.																												
9.																												
10.																												
11.																												
12.																												
<u>100</u> = Total Cover																												
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																								
1.																												
2.																												
3.																												
4.																												
<u>0</u> = Total Cover																												
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																								

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 8	10YR 3/1	85	10YR 4/6	15	C	PL	Silt Loam	
8 to 20	N 4/	100					Silt Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-7-31  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 23  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4043013 Long: -82.1459322 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of all three parameters, this area is an upland. Vegetation being mowed.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 23

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)														
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>120</u></td> <td>x 4 = <u>480</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>495</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>120</u>	x 4 = <u>480</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>495</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>5</u>	x 3 = <u>15</u>																	
FACU species <u>120</u>	x 4 = <u>480</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>125</u> (A)	<u>495</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																		
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover																		
<b>Herb Stratum</b> (Plot size: 5 ft radius )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1.	<i>Poa annua</i>	40	Yes		FACU													
2.	<i>Sonchus arvensis</i>	30	Yes		FACU													
3.	<i>Solidago altissima</i>	25	Yes		FACU													
4.	<i>Solidago flexicaulis</i>	15	No		FACU													
5.	<i>Dipsacus laciniatus</i>	10	No		FACU													
6.	<i>Vitis riparia</i>	5	No		FAC													
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
<u>125</u> = Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
1.																		
2.																		
3.																		
4.																		
<u>0</u> = Total Cover																		
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.																		





**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-7-31  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 24  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T8N R17W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4035338 Long: -82.1476435 Datum: WGS84  
 Soil Map Unit Name: Olmsted fine sandy loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland 24</u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertyp is PEM. Based on the presence of all three parameters, this area is a wetland. Ditches/drain tiles observed.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 24

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				
1.	<u>35</u>	<u>Yes</u>	<u>FACW</u>	
2.	<u>35</u>	<u>Yes</u>	<u>FACW</u>	
3.	<u>20</u>	<u>No</u>	<u>FACW</u>	
4.	<u>15</u>	<u>No</u>	<u>FAC</u>	
5.	<u>10</u>	<u>No</u>	<u>OBL</u>	
6.	<u>5</u>	<u>No</u>	<u>OBL</u>	
7.				
8.				
9.				
10.				
11.				
12.				
	<u>120</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
	<u>0</u>	= Total Cover		
<b>Remarks:</b> (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is met.				

**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 species	<u>15</u>	x 1 = <u>15</u>
FACW species	<u>90</u>	x 2 = <u>180</u>
FAC species	<u>15</u>	x 3 = <u>45</u>
FACU species	<u>0</u>	x 4 = <u>0</u>
UPL species	<u>0</u>	x 5 = <u>0</u>
Column Totals:	<u>120</u> (A)	<u>240</u> (B)

Prevalence Index = B/A = 2

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	2.5Y 3/1	98	10YR 4/6	2	C	PL	Sandy Loam	
4 to 20	2.5Y 6/1	60	10YR 6/8	40	C	M	Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-7-31  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 24  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Foot slope Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4036762 Long: -82.1475703 Datum: WGS84  
 Soil Map Unit Name: Olmsted fine sandy loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 24

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)														
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120</u></td> </tr> <tr> <td>UPL species <u>45</u></td> <td>x 5 = <u>225</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>425</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>30</u>	x 4 = <u>120</u>	UPL species <u>45</u>	x 5 = <u>225</u>	Column Totals: <u>105</u> (A)	<u>425</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>30</u>	x 4 = <u>120</u>																	
UPL species <u>45</u>	x 5 = <u>225</u>																	
Column Totals: <u>105</u> (A)	<u>425</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																		
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover																		
<b>Herb Stratum</b> (Plot size: 5 ft radius )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1.	<i>Cirsium discolor</i>	45	Yes		UPL													
2.	<i>Symphytotrichum ericoides</i>	30	Yes		FACU													
3.	<i>Vernonia gigantea</i>	15	No		FAC													
4.	<i>Impatiens capensis</i>	10	No		FACW													
5.	<i>Geum canadense</i>	5	No		FAC													
6.																		
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
<u>105</u> = Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
1.																		
2.																		
3.																		
4.																		
<u>0</u> = Total Cover																		
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <b>X</b>																		
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.																		

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 5	10YR 2/1	100					Silty Clay Loam	
5 to 20	10YR 5/2	100					Silty Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No **X** \_\_\_\_\_

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-8-1  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 25  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Channel Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4024783 Long: -82.1513862 Datum: WGS84  
 Soil Map Unit Name: Mermill loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertupe is PSS. Based on the presence of all three parameters, this area is a wetland. Ditches/drain tiles observed.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.



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

Sampling Point: Wetland 25

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																									
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> 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%</u> (A/B)																					
2. _____	_____	_____	_____																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
5. _____	_____	_____	_____																						
6. _____	_____	_____	_____																						
7. _____	_____	_____	_____																						
	<u>0</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%;">Total % Cover of:</th> <th style="width:25%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>35</u></td> <td style="text-align: center;">x 1 = <u>35</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>50</u></td> <td style="text-align: center;">x 2 = <u>100</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>85</u> (A)</td> <td style="text-align: center;"><u>135</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>1.6</u>		Total % Cover of:	Multiply by:	OBL species	<u>35</u>	x 1 = <u>35</u>	FACW species	<u>50</u>	x 2 = <u>100</u>	FAC species	<u>0</u>	x 3 = <u>0</u>	FACU species	<u>0</u>	x 4 = <u>0</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>85</u> (A)	<u>135</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>35</u>	x 1 = <u>35</u>																							
FACW species	<u>50</u>	x 2 = <u>100</u>																							
FAC species	<u>0</u>	x 3 = <u>0</u>																							
FACU species	<u>0</u>	x 4 = <u>0</u>																							
UPL species	<u>0</u>	x 5 = <u>0</u>																							
Column Totals:	<u>85</u> (A)	<u>135</u> (B)																							
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																									
1. <u>Cornus amomum</u>	40	Yes	FACW																						
2. _____	_____	_____	_____																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
5. _____	_____	_____	_____																						
6. _____	_____	_____	_____																						
7. _____	_____	_____	_____																						
	<u>40</u>	= Total Cover																							
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																									
1. <u>Typha angustifolia</u>	25	Yes	OBL	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
2. <u>Symphotrichum lanceolatum</u>	10	Yes	FACW																						
3. <u>Lemna minor</u>	5	No	OBL																						
4. <u>Alisma plantago-aquatica</u>	5	No	OBL																						
5. _____	_____	_____	_____																						
6. _____	_____	_____	_____																						
7. _____	_____	_____	_____																						
8. _____	_____	_____	_____																						
9. _____	_____	_____	_____																						
10. _____	_____	_____	_____																						
11. _____	_____	_____	_____																						
12. _____	_____	_____	_____																						
	<u>45</u>	= Total Cover																							
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																									
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
2. _____	_____	_____	_____																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
	<u>0</u>	= Total Cover																							
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																					
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is met.																									



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-8-1  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 25  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4023946 Long: -82.151434 Datum: WGS84  
 Soil Map Unit Name: Mermill loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

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

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	--

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

Remarks:  
 The criterion for wetland hydrology is not met.

VEGETATION – Use scientific names of plants.

Sampling Point: Upland 25

	Absolute % Cover	Dominant Species?	Indicator Status																																									
<b>Tree Stratum</b> (Plot size: 30 ft radius )																																												
1. <i>Fraxinus americana</i>	15	Yes	FACU	<b>Dominance Test worksheet:</b> 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%</u> (A/B)																																								
2. _____																																												
3. _____																																												
4. _____																																												
5. _____																																												
6. _____																																												
7. _____																																												
	15	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:15%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td>x 1 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">40</td> <td>x 2 =</td> <td style="text-align: center;">80</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">0</td> <td>x 3 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">55</td> <td>x 4 =</td> <td style="text-align: center;">220</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">15</td> <td>x 5 =</td> <td style="text-align: center;">75</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">110</td> <td>(A)</td> <td style="text-align: center;">375</td> <td>(B)</td> </tr> <tr> <td colspan="5" style="text-align: center;">Prevalence Index = B/A = <u>3.4</u></td> </tr> </tbody> </table>		Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0		FACW species	40	x 2 =	80		FAC species	0	x 3 =	0		FACU species	55	x 4 =	220		UPL species	15	x 5 =	75		Column Totals:	110	(A)	375	(B)	Prevalence Index = B/A = <u>3.4</u>				
	Total % Cover of:		Multiply by:																																									
OBL species	0	x 1 =	0																																									
FACW species	40	x 2 =	80																																									
FAC species	0	x 3 =	0																																									
FACU species	55	x 4 =	220																																									
UPL species	15	x 5 =	75																																									
Column Totals:	110	(A)	375	(B)																																								
Prevalence Index = B/A = <u>3.4</u>																																												
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																																												
1. <i>Cornus amomum</i>	40	Yes	FACW																																									
2. _____																																												
3. _____																																												
4. _____																																												
5. _____																																												
6. _____																																												
7. _____																																												
	40	= Total Cover																																										
<b>Herb Stratum</b> (Plot size: 5 ft radius )																																												
1. <i>Solidago caesia</i>	20	Yes	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																								
2. <i>Eurybia macrophylla</i>	15	Yes	UPL																																									
3. <i>Fragaria virginiana</i>	15	Yes	FACU																																									
4. <i>Rosa multiflora</i>	5	No	FACU																																									
5. _____																																												
6. _____																																												
7. _____																																												
8. _____																																												
9. _____																																												
10. _____																																												
11. _____																																												
12. _____																																												
	55	= Total Cover																																										
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																																												
1. _____				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																								
2. _____																																												
3. _____																																												
4. _____																																												
	0	= Total Cover																																										
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>																																								

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-8-1  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 26  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Channel Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4033982 Long: -82.1405144 Datum: WGS84  
 Soil Map Unit Name: Mermill loam NWI Classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertyping is PEM. Based on the presence of all three parameters, this area is a wetland. Ditches/drain tiles observed.

**HYDROLOGY**

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

<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 26

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0			= Total Cover
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0			= Total Cover
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				
1.	60	Yes	OBL	
2.	35	Yes	FACW	
3.	5	No	FACW	
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	100			= Total Cover
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1.				
2.				
3.				
4.				
	0			= Total Cover

	<p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>100%</u> (A/B)</p>														
	<p><b>Prevalence Index worksheet:</b></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align:center;">Total % Cover of:</th> <th style="text-align:center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>60</u></td> <td>x 1 = <u>60</u></td> </tr> <tr> <td>FACW species <u>40</u></td> <td>x 2 = <u>80</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>140</u> (B)</td> </tr> </tbody> </table> <p style="text-align:center;">Prevalence Index = B/A = <u>1.4</u></p>	Total % Cover of:	Multiply by:	OBL species <u>60</u>	x 1 = <u>60</u>	FACW species <u>40</u>	x 2 = <u>80</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>140</u> (B)
Total % Cover of:	Multiply by:														
OBL species <u>60</u>	x 1 = <u>60</u>														
FACW species <u>40</u>	x 2 = <u>80</u>														
FAC species <u>0</u>	x 3 = <u>0</u>														
FACU species <u>0</u>	x 4 = <u>0</u>														
UPL species <u>0</u>	x 5 = <u>0</u>														
Column Totals: <u>100</u> (A)	<u>140</u> (B)														
	<p><b>Hydrophytic Vegetation Indicators:</b></p> <p><input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input checked="" type="checkbox"/> 2 - Dominance Test is &gt;50%</p> <p><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0<sup>1</sup></p> <p><input type="checkbox"/> 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>														
	<p><b>Definitions of Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.</p>														
	<p><b>Hydrophytic Vegetation Present?</b>      Yes <input checked="" type="checkbox"/>      No <input type="checkbox"/></p>														

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.





**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria Twp, Lorain County Sampling Date: 2023-8-1  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 26  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4034218 Long: -82.140457 Datum: WGS84  
 Soil Map Unit Name: Mermill loam NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
---	--

Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of all three parameters, this area is an upland. Vegetation being mowed.

**HYDROLOGY**

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

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 26

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)														
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>510</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4.1</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>20</u>	x 5 = <u>100</u>	Column Totals: <u>125</u> (A)	<u>510</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
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UPL species <u>20</u>	x 5 = <u>100</u>																	
Column Totals: <u>125</u> (A)	<u>510</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																		
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover																		
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1.	<u>Poa annua</u>	<u>35</u>	<u>Yes</u>		<u>FACU</u>													
2.	<u>Phleum pratense</u>	<u>20</u>	<u>Yes</u>		<u>FACU</u>													
3.	<u>Daucus carota</u>	<u>15</u>	<u>Yes</u>		<u>UPL</u>													
4.	<u>Heliopsis helianthoides</u>	<u>15</u>	<u>Yes</u>		<u>FACU</u>													
5.	<u>Erigeron annuus</u>	<u>10</u>	<u>No</u>		<u>FACU</u>													
6.	<u>Plantago lanceolata</u>	<u>10</u>	<u>No</u>		<u>FACU</u>													
7.	<u>Rumex crispus</u>	<u>10</u>	<u>No</u>		<u>FAC</u>													
8.	<u>Asclepias syriaca</u>	<u>5</u>	<u>No</u>		<u>UPL</u>													
9.	<u>Cirsium arvense</u>	<u>5</u>	<u>No</u>		<u>FACU</u>													
10.																		
11.																		
12.																		
<u>125</u> = Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
1.																		
2.																		
3.																		
4.																		
<u>0</u> = Total Cover																		
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>														

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 20	10YR 4/3	100					Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-2  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 27  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): Concave Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4064657 Long: -82.1182366 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is PFO. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 27

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1. <i>Ulmus rubra</i>	25	Yes	FAC	<b>Dominance Test worksheet:</b> 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%</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	25	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="text-align:right">Total % Cover of:</td> <td style="text-align:right">Multiply by:</td> </tr> <tr> <td>OBL species <u>45</u></td> <td>x 1 = <u>45</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>240</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.9</u>	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45</u>	FACW species <u>50</u>	x 2 = <u>100</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>240</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>45</u>	x 1 = <u>45</u>																	
FACW species <u>50</u>	x 2 = <u>100</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>125</u> (A)	<u>240</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	0	= Total Cover																
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																		
1. <i>Phragmites australis</i>	40	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <i>Lythrum salicaria</i>	30	Yes	OBL															
3. <i>Glyceria striata</i>	15	No	OBL															
4. <i>Solidago gigantea</i>	10	No	FACW															
5. <i>Rosa setigera</i>	5	No	FACU															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	100	= Total Cover																
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
	0	= Total Cover																
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is met.																		



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-2  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 27  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4063624667 Long: -82.1182354167 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 27

	Absolute % Cover	Dominant Species?	Indicator Status																																				
<b>Tree Stratum</b> (Plot size: 30 ft radius )																																							
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> 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%</u> (A/B)																																			
2. _____	_____	_____	_____																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
	<u>0</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>95</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>380</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>10</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>50</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>105</u> (A)</td> <td></td> <td style="text-align: center;"><u>430</u> (B)</td> <td></td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4.1</u>		Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>0</u>	x 2 =	<u>0</u>		FAC species	<u>0</u>	x 3 =	<u>0</u>		FACU species	<u>95</u>	x 4 =	<u>380</u>		UPL species	<u>10</u>	x 5 =	<u>50</u>		Column Totals:	<u>105</u> (A)		<u>430</u> (B)	
	Total % Cover of:		Multiply by:																																				
OBL species	<u>0</u>	x 1 =	<u>0</u>																																				
FACW species	<u>0</u>	x 2 =	<u>0</u>																																				
FAC species	<u>0</u>	x 3 =	<u>0</u>																																				
FACU species	<u>95</u>	x 4 =	<u>380</u>																																				
UPL species	<u>10</u>	x 5 =	<u>50</u>																																				
Column Totals:	<u>105</u> (A)		<u>430</u> (B)																																				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																																							
1. _____	_____	_____	_____																																				
2. _____	_____	_____	_____																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
	<u>0</u>	= Total Cover																																					
<b>Herb Stratum</b> (Plot size: 5 ft radius )																																							
1. <i>Poa annua</i>	75	Yes	FACU	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																			
2. <i>Plantago lanceolata</i>	20	No	FACU																																				
3. <i>Daucus carota</i>	10	No	UPL																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
8. _____	_____	_____	_____																																				
9. _____	_____	_____	_____																																				
10. _____	_____	_____	_____																																				
11. _____	_____	_____	_____																																				
12. _____	_____	_____	_____																																				
	<u>105</u>	= Total Cover																																					
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																																							
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																			
2. _____	_____	_____	_____																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
	<u>0</u>	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes _____      No <u>X</u>																																			

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.





**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-4  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 28  
 Investigator(s): Erin Van Nort, Jenna Slabe, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): Convex Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4058323 Long: -82.1198819 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
---	--

Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PFO. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 28

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: 30 ft radius )																									
1. <i>Fraxinus pennsylvanica</i>	30	Yes	FACW	<b>Dominance Test worksheet:</b> 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%</u> (A/B)																					
2. _____																									
3. _____																									
4. _____																									
5. _____																									
6. _____																									
7. _____																									
	30	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%;">Total % Cover of:</th> <th style="width:25%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>125</u></td> <td style="text-align: center;">x 2 = <u>250</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>125</u> (A)</td> <td style="text-align: center;"><u>250</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2</u>		Total % Cover of:	Multiply by:	OBL species	<u>0</u>	x 1 = <u>0</u>	FACW species	<u>125</u>	x 2 = <u>250</u>	FAC species	<u>0</u>	x 3 = <u>0</u>	FACU species	<u>0</u>	x 4 = <u>0</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>125</u> (A)	<u>250</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>0</u>	x 1 = <u>0</u>																							
FACW species	<u>125</u>	x 2 = <u>250</u>																							
FAC species	<u>0</u>	x 3 = <u>0</u>																							
FACU species	<u>0</u>	x 4 = <u>0</u>																							
UPL species	<u>0</u>	x 5 = <u>0</u>																							
Column Totals:	<u>125</u> (A)	<u>250</u> (B)																							
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																									
1. <i>Cornus amomum</i>	10	Yes	FACW																						
2. _____																									
3. _____																									
4. _____																									
5. _____																									
6. _____																									
7. _____																									
	10	= Total Cover																							
<b>Herb Stratum</b> (Plot size: 5 ft radius )																									
1. <i>Phragmites australis</i>	55	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
2. <i>Solidago gigantea</i>	25	Yes	FACW																						
3. <i>Cornus amomum</i>	5	No	FACW																						
4. _____																									
5. _____																									
6. _____																									
7. _____																									
8. _____																									
9. _____																									
10. _____																									
11. _____																									
12. _____																									
	85	= Total Cover																							
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																									
1. _____				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
2. _____																									
3. _____																									
4. _____																									
	0	= Total Cover																							
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																					
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is met.																									

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	10YR 4/1	90	10YR 5/6	10	C	PL	Silty Clay Loam	
10 to 20	10YR 6/2	65	10YR 6/8	35	C	M	Silty Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-4  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 28  
 Investigator(s): Erin Van Nort, Jenna Slabe, Michael Whitacre Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4057432 Long: -82.1199519 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Coverture is UPL. Based on the absence of all three parameters, this area is an upland. Vegetation being mowed.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 28

	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)																
1.																				
2.																				
3.																				
4.																				
5.																				
6.																				
7.																				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>90</u></td> <td>x 4 = <u>360</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>390</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.7</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>105</u> (A)	<u>390</u> (B)	Prevalence Index = B/A = <u>3.7</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>15</u>	x 2 = <u>30</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>90</u>	x 4 = <u>360</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>105</u> (A)	<u>390</u> (B)																			
Prevalence Index = B/A = <u>3.7</u>																				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																				
1. <i>Elaeagnus umbellata</i>	5	Yes	NI																	
2.																				
3.																				
4.																				
5.																				
6.																				
7.																				
<u>5</u> = Total Cover																				
<b>Herb Stratum</b> (Plot size: 5 ft radius )																				
1. <i>Solidago canadensis</i>	30	Yes	FACU																	
2. <i>Asparagus officinalis</i>	25	Yes	FACU																	
3. <i>Solidago altissima</i>	20	No	FACU																	
4. <i>Fragaria virginiana</i>	15	No	FACU																	
5. <i>Cornus amomum</i>	10	No	FACW																	
6. <i>Phragmites australis</i>	5	No	FACW																	
7.																				
8.																				
9.																				
10.																				
11.																				
12.																				
<u>105</u> = Total Cover																				
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																				
1.																				
2.																				
3.																				
4.																				
<u>0</u> = Total Cover																				
<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																				
				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>																				

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-8  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 29  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): Convex Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4054819 Long: -82.1134842 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.



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

Sampling Point: Wetland 29

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> 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%</u> (A/B)																					
1.																									
2.																									
3.																									
4.																									
5.																									
6.																									
7.																									
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%;">Total % Cover of:</th> <th style="width:25%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>80</u></td> <td style="text-align: center;">x 2 = <u>160</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;">x 3 = <u>30</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>90</u> (A)</td> <td style="text-align: center;"><u>190</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.1</u>		Total % Cover of:	Multiply by:	OBL species	<u>0</u>	x 1 = <u>0</u>	FACW species	<u>80</u>	x 2 = <u>160</u>	FAC species	<u>10</u>	x 3 = <u>30</u>	FACU species	<u>0</u>	x 4 = <u>0</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>90</u> (A)	<u>190</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>0</u>	x 1 = <u>0</u>																							
FACW species	<u>80</u>	x 2 = <u>160</u>																							
FAC species	<u>10</u>	x 3 = <u>30</u>																							
FACU species	<u>0</u>	x 4 = <u>0</u>																							
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Column Totals:	<u>90</u> (A)	<u>190</u> (B)																							
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																									
1.	<u>10</u>	Yes	FAC																						
2.																									
3.																									
4.																									
5.																									
6.																									
7.																									
<u>10</u> = Total Cover																									
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
1.	<u>80</u>	Yes	FACW																						
2.																									
3.																									
4.																									
5.																									
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7.																									
8.																									
9.																									
10.																									
11.																									
12.																									
<u>80</u> = Total Cover																									
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
1.																									
2.																									
3.																									
4.																									
<u>0</u> = Total Cover																									
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																									

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 8	7.5YR 5/1	80	5YR 4/4	20	C	PL	Silty Clay Loam	
8 to 12	10YR 5/2	85	10YR 6/6	15	D	M	Silty Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: FILL  
 Depth (inches): 12

Hydric Soil Present? Yes  No

Remarks:  
 The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-8  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 29  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): None Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4055987 Long: -82.1133276 Datum: WGS84  
 Soil Map Unit Name: Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI Classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is UPL. Based on the absence of all three parameters, this area is an upland.	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required; check all that apply)</p> <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p><b>Secondary Indicators (minimum of two required)</b></p> <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<p><b>Field Observations:</b></p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<p><b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b></p>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is not met.																																

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

Sampling Point: Upland 29

	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b> (Plot size: 30 ft radius )																				
1. <i>Fraxinus americana</i>	10	Yes	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	10	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>410</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.1</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>100</u> (A)	<u>410</u> (B)	Prevalence Index = B/A = <u>4.1</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
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Column Totals: <u>100</u> (A)	<u>410</u> (B)																			
Prevalence Index = B/A = <u>4.1</u>																				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																				
1. <i>Lonicera morrowii</i>	35	Yes	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	35	= Total Cover																		
<b>Herb Stratum</b> (Plot size: 5 ft radius )																				
1. <i>Solidago canadensis</i>	20	Yes	FACU	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes _____ No <b>X</b> _____																
2. <i>Cirsium discolor</i>	10	Yes	UPL																	
3. <i>Daucus carota</i>	5	No	UPL																	
4. <i>Geum canadense</i>	5	No	FAC																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	40	= Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																				
1. <i>Vitis aestivalis</i>	15	Yes	FACU																	
2. _____																				
3. _____																				
4. _____																				
	15	= Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-8  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 30  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): Convex Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4054233836 Long: -82.1126618833 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>                    </u>
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 30

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: 30 ft radius )																		
1. <i>Cornus amomum</i>	2	No	FACW	<b>Dominance Test worksheet:</b> 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%</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	2	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="text-align:right">Total % Cover of:</td> <td style="text-align:right">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>107</u></td> <td>x 2 = <u>214</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>107</u> (A)</td> <td><u>214</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>107</u>	x 2 = <u>214</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>107</u> (A)	<u>214</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>107</u>	x 2 = <u>214</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>107</u> (A)	<u>214</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	0	= Total Cover																
<b>Herb Stratum</b> (Plot size: 5 ft radius )																		
1. <i>Phragmites australis</i>	105	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	105	= Total Cover																
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
	0	= Total Cover																
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.





**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Elyria, Lorain County Sampling Date: 2023-8-8  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 30  
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1 to 3  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4054147336 Long: -82.1126261667 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
---	--

Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is UPL. Based on the absence of all three parameters, this area is an upland.

**HYDROLOGY**

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

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	--

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

Remarks:  
 The criterion for wetland hydrology is not met.

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

Sampling Point: Upland 30

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> 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%</u> (A/B)
1. <u>Lonicera morrowii</u>	35	Yes	FACU	
2. <u>Fraxinus americana</u>	25	Yes	FACU	
3. <u>Cornus amomum</u>	5	No	FACW	
4. <u>Prunus virginiana</u>	5	No	FACU	
5. _____				
6. _____				
7. _____				
	70	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1. <u>Ligustrum vulgare</u>	5	Yes	FACU	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	5	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				
1. <u>Solidago canadensis</u>	25	Yes	FACU	
2. <u>Toxicodendron radicans</u>	15	Yes	FAC	
3. <u>Parthenocissus quinquefolia</u>	5	No	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	45	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= Total Cover		
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
<b>Hydrophytic Vegetation Present?</b> Yes _____      No <input checked="" type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is not met.				

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 3/2	100					Silty Clay Loam	
4 to 20	10YR 6/3	95	10YR 5/6	5	D	M	Silty Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

**Remarks:**

The criterion for hydric soil is not met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Avon, Lorain County Sampling Date: 2023-8-10  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 31  
 Investigator(s): Erin Van Nort, Michael Whitacre Section, Township, Range: T7N R16W  
 Landform (hillslope, terrace, etc): Swale Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.457744 Long: -82.062506 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland. Ditches/drain tiles observed. Vegetation being mowed.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	--

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

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 31

	Absolute % Cover	Dominant Species?	Indicator Status																						
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																									
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> 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%</u> (A/B)																					
2. _____	_____	_____	_____																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
5. _____	_____	_____	_____																						
6. _____	_____	_____	_____																						
7. _____	_____	_____	_____																						
	<u>0</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%;">Total % Cover of:</th> <th style="width:25%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>60</u></td> <td style="text-align: center;">x 1 = <u>60</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>15</u></td> <td style="text-align: center;">x 2 = <u>30</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>75</u> (A)</td> <td style="text-align: center;"><u>90</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>1.2</u>		Total % Cover of:	Multiply by:	OBL species	<u>60</u>	x 1 = <u>60</u>	FACW species	<u>15</u>	x 2 = <u>30</u>	FAC species	<u>0</u>	x 3 = <u>0</u>	FACU species	<u>0</u>	x 4 = <u>0</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>75</u> (A)	<u>90</u> (B)
	Total % Cover of:	Multiply by:																							
OBL species	<u>60</u>	x 1 = <u>60</u>																							
FACW species	<u>15</u>	x 2 = <u>30</u>																							
FAC species	<u>0</u>	x 3 = <u>0</u>																							
FACU species	<u>0</u>	x 4 = <u>0</u>																							
UPL species	<u>0</u>	x 5 = <u>0</u>																							
Column Totals:	<u>75</u> (A)	<u>90</u> (B)																							
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																									
1. _____	_____	_____	_____																						
2. _____	_____	_____	_____																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
5. _____	_____	_____	_____																						
6. _____	_____	_____	_____																						
7. _____	_____	_____	_____																						
	<u>0</u>	= Total Cover																							
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																									
1. <i>Typha angustifolia</i>	35	Yes	OBL	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
2. <i>Lythrum salicaria</i>	25	Yes	OBL																						
3. <i>Phragmites australis</i>	15	Yes	FACW																						
4. _____	_____	_____	_____																						
5. _____	_____	_____	_____																						
6. _____	_____	_____	_____																						
7. _____	_____	_____	_____																						
8. _____	_____	_____	_____																						
9. _____	_____	_____	_____																						
10. _____	_____	_____	_____																						
11. _____	_____	_____	_____																						
12. _____	_____	_____	_____																						
	<u>75</u>	= Total Cover																							
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																									
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																					
2. _____	_____	_____	_____																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
	<u>0</u>	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																					
Remarks: (Include photo numbers here or on a separate sheet.) The criterion for hydrophytic vegetation is met.																									



**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Avon, Lorain County Sampling Date: 2023-8-10  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 31  
 Investigator(s): Erin Van Nort, Michael Whitacre Section, Township, Range: T7N R16W  
 Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4576452 Long: -82.0624241 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Covertypes is UPL. Based on the absence of all three parameters, this area is an upland. Vegetation being mowed.	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required; check all that apply)</p> <p> <input type="checkbox"/> Surface Water (A1)      <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> High Water Table (A2)      <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Saturation (A3)      <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Water Marks (B1)      <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Sediment Deposits (B2)      <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)  <input type="checkbox"/> Drift Deposits (B3)      <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Algal Mat or Crust (B4)      <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Iron Deposits (B5)      <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)      <input type="checkbox"/> Other (Explain in Remarks)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)                 </p>	<p><b>Secondary Indicators (minimum of two required)</b></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6)  <input type="checkbox"/> Drainage Patterns (B10)  <input type="checkbox"/> Moss Trim Lines (B16)  <input type="checkbox"/> Dry-Season Water Table (C2)  <input type="checkbox"/> Crayfish Burrows (C8)  <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)  <input type="checkbox"/> Stunted or Stressed Plants (D1)  <input type="checkbox"/> Geomorphic Position (D2)  <input type="checkbox"/> Shallow Aquitard (D3)  <input type="checkbox"/> Microtopographic Relief (D4)  <input type="checkbox"/> FAC-Neutral Test (D5)                 </p>
<p><b>Field Observations:</b></p> <p>                 Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____                  Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____                  Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____                  (includes capillary fringe)             </p>	<p><b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b></p>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: The criterion for wetland hydrology is not met.	

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

Sampling Point: Upland 31

	Absolute % Cover	Dominant Species?	Indicator Status																																				
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )																																							
1.																																							
2.																																							
3.																																							
4.																																							
5.																																							
6.																																							
7.																																							
	<u>0</u>	= Total Cover																																					
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )																																							
1.																																							
2.																																							
3.																																							
4.																																							
5.																																							
6.																																							
7.																																							
	<u>0</u>	= Total Cover																																					
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )																																							
1.	<u>90</u>	Yes		FACU																																			
2.	<u>5</u>	No		FACU																																			
3.																																							
4.																																							
5.																																							
6.																																							
7.																																							
8.																																							
9.																																							
10.																																							
11.																																							
12.																																							
	<u>95</u>	= Total Cover																																					
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )																																							
1.																																							
2.																																							
3.																																							
4.																																							
	<u>0</u>	= Total Cover																																					
<p><b>Dominance Test worksheet:</b>                      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%</u> (A/B)</p> <p><b>Prevalence Index worksheet:</b></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align:center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align:center;">Multiply by:</th> <th style="width:10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:center;">x 1 =</td> <td style="text-align:center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:center;">x 2 =</td> <td style="text-align:center;"><u>0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:center;">x 3 =</td> <td style="text-align:center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>95</u></td> <td style="text-align:center;">x 4 =</td> <td style="text-align:center;"><u>380</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:center;">x 5 =</td> <td style="text-align:center;"><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>95</u></td> <td style="text-align:center;">(A)</td> <td style="text-align:center;"><u>380</u></td> <td style="text-align:center;">(B)</td> </tr> </tbody> </table> <p style="text-align:right;">Prevalence Index = B/A = <u>4</u></p>						Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>0</u>	x 2 =	<u>0</u>		FAC species	<u>0</u>	x 3 =	<u>0</u>		FACU species	<u>95</u>	x 4 =	<u>380</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>95</u>	(A)	<u>380</u>	(B)
	Total % Cover of:		Multiply by:																																				
OBL species	<u>0</u>	x 1 =	<u>0</u>																																				
FACW species	<u>0</u>	x 2 =	<u>0</u>																																				
FAC species	<u>0</u>	x 3 =	<u>0</u>																																				
FACU species	<u>95</u>	x 4 =	<u>380</u>																																				
UPL species	<u>0</u>	x 5 =	<u>0</u>																																				
Column Totals:	<u>95</u>	(A)	<u>380</u>	(B)																																			
<p><b>Hydrophytic Vegetation Indicators:</b></p> <p><u>  </u> 1 - Rapid Test for Hydrophytic Vegetation  <u>  </u> 2 - Dominance Test is &gt;50%  <u>  </u> 3 - Prevalence Index is ≤3.0<sup>1</sup>  <u>  </u> 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  <u>  </u> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>																																							
<p><b>Definitions of Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.</p>																																							
<p><b>Hydrophytic Vegetation Present?</b>      Yes <u>      </u>      No <u>  X  </u></p>																																							
<p>Remarks: (Include photo numbers here or on a separate sheet.)                      The criterion for hydrophytic vegetation is not met.</p>																																							





**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield, Lorain County Sampling Date: 2023-8-11  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Wetland 32  
 Investigator(s): Erin Van Nort, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Foot slope Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4533543727 Long: -82.0680930466 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)  
 Covertypc is PFO. Based on the presence of all three parameters, this area is a wetland.

**HYDROLOGY**

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

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	--

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

Remarks:  
 The criterion for wetland hydrology is met.

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

Sampling Point: Wetland 32

	Absolute % Cover	Dominant Species?	Indicator Status																																				
<b>Tree Stratum</b> (Plot size: 30 ft radius )																																							
1. <i>Fraxinus pennsylvanica</i>	45	Yes	FACW	<b>Dominance Test worksheet:</b> 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%</u> (A/B)																																			
2. <i>Populus deltoides</i>	15	Yes	FAC																																				
3. <i>Salix nigra</i>	10	No	OBL																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
	<u>70</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: center;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%; text-align: center;">Multiply by:</th> <th style="width:10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;"><u>10</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>10</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>125</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>250</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>15</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>45</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>150</u></td> <td>(A)</td> <td style="text-align: center;"><u>305</u></td> <td>(B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2</u>		Total % Cover of:		Multiply by:		OBL species	<u>10</u>	x 1 =	<u>10</u>		FACW species	<u>125</u>	x 2 =	<u>250</u>		FAC species	<u>15</u>	x 3 =	<u>45</u>		FACU species	<u>0</u>	x 4 =	<u>0</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>150</u>	(A)	<u>305</u>	(B)
	Total % Cover of:		Multiply by:																																				
OBL species	<u>10</u>	x 1 =	<u>10</u>																																				
FACW species	<u>125</u>	x 2 =	<u>250</u>																																				
FAC species	<u>15</u>	x 3 =	<u>45</u>																																				
FACU species	<u>0</u>	x 4 =	<u>0</u>																																				
UPL species	<u>0</u>	x 5 =	<u>0</u>																																				
Column Totals:	<u>150</u>	(A)	<u>305</u>	(B)																																			
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																																							
1. _____	_____	_____	_____																																				
2. _____	_____	_____	_____																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
	<u>0</u>	= Total Cover																																					
<b>Herb Stratum</b> (Plot size: 5 ft radius )																																							
1. <i>Phragmites australis</i>	80	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input checked="" type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																			
2. _____	15	_____	_____																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
8. _____	_____	_____	_____																																				
9. _____	_____	_____	_____																																				
10. _____	_____	_____	_____																																				
11. _____	_____	_____	_____																																				
12. _____	_____	_____	_____																																				
	<u>95</u>	= Total Cover																																					
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )																																							
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																																			
2. _____	_____	_____	_____																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
	<u>0</u>	= Total Cover																																					
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																																			

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 3/2	100	10B 3/1	0			Silty Clay	
4 to 20	7.5YR 2.5/1	93	7.5YR 4/6	7	C	M	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

The criterion for hydric soil is met.

**WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region**

Project/Site: LOR-90-10.76 (PID 107714) City/County: Sheffield, Lorain County Sampling Date: 2023-8-11  
 Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: Upland 32  
 Investigator(s): Erin Van Nort, Michael Whitacre Section, Township, Range: T7N R17W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Convex Slope (%): 40 to 45  
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.4532834039 Long: -82.0681571082 Datum: WGS84  
 Soil Map Unit Name: Udorthents NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: <u>                    </u>
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is UPL.	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required; check all that apply)</p> <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p><b>Secondary Indicators (minimum of two required)</b></p> <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b></p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<p><b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b></p>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is not met.																																

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

Sampling Point: Upland 32

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: 30 ft radius )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)														
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;">Total % Cover of:</th> <th style="width:40%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>160</u></td> <td>x 4 = <u>640</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>200</u> (A)</td> <td><u>790</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>4</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>160</u>	x 4 = <u>640</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>200</u> (A)	<u>790</u> (B)
Total % Cover of:	Multiply by:																	
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UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>200</u> (A)	<u>790</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius )																		
1.	<u>Juniperus virginiana</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>														
2.	<u>Malus sp.</u>	<u>20</u>	<u>Yes</u>	<u>NI</u>														
3.	<u>Ligustrum vulgare</u>	<u>15</u>	<u>No</u>	<u>FACU</u>														
4.																		
5.																		
6.																		
7.																		
<u>85</u> = Total Cover																		
<b>Herb Stratum</b> (Plot size: 5 ft radius )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1.	<u>Poa pratensis</u>	<u>60</u>	<u>Yes</u>		<u>FACU</u>													
2.	<u>Solidago canadensis</u>	<u>35</u>	<u>Yes</u>		<u>FACU</u>													
3.	<u>Euthamia graminifolia</u>	<u>25</u>	<u>No</u>		<u>FAC</u>													
4.	<u>Daucus carota</u>	<u>15</u>	<u>No</u>		<u>UPL</u>													
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
<u>135</u> = Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
1.																		
2.																		
3.																		
4.																		
<u>0</u> = Total Cover																		
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>														

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 8	10YR 4/4	100					Loam	
8 to 20	10YR 4/2	97	10YR 5/6	3	C	PL	Clay Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No **X** \_\_\_\_\_

**Remarks:**

The criterion for hydric soil is not met.

## Background Information

<b>Name:</b> Emma Given	
<b>Date:</b> 7/31/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 1	
<b>Vegetation Communit(ies):</b> PEM, PFO	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 1 is located east of Interstate 90 eastbound lanes, just north of the Ohio Turnpike toll booth in Elyria Twp, Lorain County OH.	
Lat/Long or UTM Coordinate	41.39561; -82.158562
USGS Quad Name	Lorain
County	Lorain
Township	Elyria
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0703
Site Visit	7/31/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	NA
Soil Survey	Om; MtA
Delineation report/map	ESR



<b>Name of Wetland:</b> Wetland 1	
<b>Wetland Size (acres, hectares):</b>	1.514 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 23	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-07-31

**2** | **2**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 1  
**TYPE:** PEM / PFO  
**Continues Offsite?** yes

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** | **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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**8** | **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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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 checked="" type="checkbox"/> nutrient enrichment

**23**

subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-07-31

23

subtotal first page

0	23
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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)

0	23
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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.

- A: uatic bed
- 2 Emergent
- 1 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

**Invasives present:**  
European buckthorn, hybrid cattail, narrow-leaved cattail, phragmites, purple loosestrife

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 0 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

23

Category 1

# 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	2	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	0	
	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 <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	<b>Category 1</b>	Category 2	Category 3
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**End of Ohio Rapid Assessment Method for Wetlands.**

## Background Information

<b>Name:</b> Emma Given	
<b>Date:</b> 7/31/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 2	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 2 is located east of Interstate 90 eastbound lanes and north of Crestlane Dr in Elyria Twp, Lorain County OH.	
Lat/Long or UTM Coordinate	41.400481, -82.154765
USGS Quad Name	Lorain
County	Lorain
Township	Elyria
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0703
Site Visit	7/31/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Mo; MtA
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 2	
<b>Wetland Size (acres, hectares):</b>	1.441 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 26	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) **Rater(s):** Emma Given, Michael Whitacre **Date:** 2023-07-31

**2** **2**  
max 6 pts. subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 2  
**TYPE:** PEM  
**Continues Offsite?** yes

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** **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)

**10** **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 0.7 m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> 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	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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 checked="" type="checkbox"/> nutrient enrichment

**24**  
subtotal this page



**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-07-31

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)

2	26
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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
- 1 Emergent
- Shrub
- 1 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

**Invasives present:**  
phragmites, purple loosestrife, reed canary grass

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 0 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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### Category 1

# 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	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	2	
	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
<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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/1/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 3	
<b>Vegetation Communit(ies):</b> PEM, PSS	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 3 is located south of Interstate 90 eastbound lanes and east of Murray Ridge Rd in Elyria Twp, Lorain County OH.	
Lat/Long or UTM Coordinate	41.402650, -82.147909
USGS Quad Name	Lorain
County	Lorain
Township	Elyria
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0703
Site Visit	8/1/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Mo; Om
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 3	
<b>Wetland Size (acres, hectares):</b>	0.490acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 23.5	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) **Rater(s):** Emma Given, Michael Whitacre **Date:** 2023-08-01

**2** **2**  
max 6 pts. subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 3  
**TYPE:** PEM / PSS  
**Continues Offsite?** yes

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** **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)

**9.5** **15.5**  
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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**8** **23.5**  
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

**23.5**

subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-01

**23.5**  
subtotal first page

**0** | **23.5** **Metric 5. Special Wetlands.**  
max 10 pts. subtotal

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** | **23.5** **Metric 6. Plant communities, interspersions, microtopography.**  
max 20 pts. subtotal

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)
- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

**Invasives present:**  
European buckthorn, hybrid cattail, narrow-leaved cattail

**23.5** **Category 1**

# 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	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	9.5	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	23.5	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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/1/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 4	
<b>Vegetation Communit(ies):</b> PFO	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 4 is located south of Interstate 90 eastbound lanes in Elyria Twp, Lorain County OH.	
Lat/Long or UTM Coordinate	41.402699, -82.147415
USGS Quad Name	Lorain
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/1/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz; HsA
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 4	
<b>Wetland Size (acres, hectares):</b>	0.812 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 29	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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 viridicarinarum</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:** ODOT, LOR-90-10.76 (PID 107714) **Rater(s):** Emma Given, Michael Whitacre **Date:** 2023-08-01

**2** **2**  
max 6 pts. subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 4  
**TYPE:** PFO  
**Continues Offsite?** yes

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** **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)

**9** **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 0.7 m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**9** **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	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

**24**  
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-01

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)

5	29
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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
- 1 Emergent
- Shrub
- 2 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.

- 0 Vegetated hummocks/tussocks
- 1 Coarse woody debris >15cm (6in)
- 2 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

**Invasives present:**  
 European buckthorn, hybrid cattail, narrow-leaved cattail, phragmites, reed canary grass

**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

29

**Category 1**

# 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	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	5	
	TOTAL SCORE	29	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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/1/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 5	
<b>Vegetation Communit(ies):</b> PFO	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland:</b> include map, address, north arrow, landmarks, distances, roads, etc. Wetland 5 is located south of Interstate 90/Ohio State Route 2 eastbound lanes in Elyria Twp, Lorain County OH.	
Lat/Long or UTM Coordinate	41.403067, -82.137736
USGS Quad Name	Lorain
County	Lorain
Township	Elyria
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/1/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR



<b>Name of Wetland:</b> Wetland 5	
<b>Wetland Size (acres, hectares):</b>	0.293 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 22	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) **Rater(s):** Emma Given, Michael Whitacre **Date:** 2023-08-01

**1** **1**  
max 6 pts. subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 5  
**TYPE:** PFO  
**Continues Offsite?** yes

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** **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)

**9** **13**  
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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**8** **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.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

**21**  
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-01

21

subtotal first page

0	21
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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)

1	22
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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
- 1 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

**Invasives present:**  
European buckthorn, reed canary grass

- Extensive >75% cover (-5)
- X 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.

- 0 Vegetated hummocks/tussocks
- 1 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 0 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

22	Category 1
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# 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	3	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	1	
	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
<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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/2/2023	
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<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 6	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland:</b> include map, address, north arrow, landmarks, distances, roads, etc.  Wetland 6 is located south of the eastbound lanes of Interstate 90/Ohio State Route 2 in the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	41.403744, -82.127413
USGS Quad Name	Lorain
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/2/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 6	
<b>Wetland Size (acres, hectares):</b>	0.201 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 22	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) **Rater(s):** Emma Given, Michael Whitacre **Date:** 2023-08-02

**1** **1**  
max 6 pts. subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 6  
**TYPE:** PEM

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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**8** **22**  
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

**22**  
subtotal this page



**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-02

22

subtotal first page

0	22
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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)

0	22
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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
- 1 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

**Invasives present:**  
phragmites

- Extensive >75% cover (-5)
- X 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

22

**Category 1**

# 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	4	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersed, 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
<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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/2/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 7	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland:</b> include map, address, north arrow, landmarks, distances, roads, etc.  Wetland 7 is located east/southeast of the entrance ramp to Interstate 90/Ohio State Route 2 East and west/northwest of Foxes Lair Apartments drive in the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	41.403687, -82.114110
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/2/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 7	
<b>Wetland Size (acres, hectares):</b>	0.152 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 22	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-02

<b>1</b>	<b>1</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** W-EKG-07  
**TYPE:** PEM  
**Continues Offsite?** yes

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)

<b>4</b>	<b>5</b>
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)

<b>9</b>	<b>14</b>
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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>8</b>	<b>22</b>
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

<b>22</b>
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-02

22

subtotal first page

0	22
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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)

0	22
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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

**Invasives present:**  
hybrid cattail, narrow-leaved cattail, phragmites

- 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.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

22

### Category 1

**End of Quantitative Rating. Complete Categorization Worksheets.**

# 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	4	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	8	
	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
<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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/2/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 8	
<b>Vegetation Communit(ies):</b> PSS, PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland:</b> include map, address, north arrow, landmarks, distances, roads, etc. Wetland 8 is located south of the eastbound lanes of Interstate 90/Ohio State Route 2 in the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	40.923702, -81.140578
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/2/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 8	
<b>Wetland Size (acres, hectares):</b>	0.075 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 20.5	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-02

**0** | **0**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 8  
**TYPE:** PSS  
**Continues Offsite?** yes

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** | **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)

**9.5** | **13.5**  
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)

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)

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/dbl check avg.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**8** | **21.5**  
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

**21.5**

subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-02

**21.5**  
subtotal first page

**0** | **21.5** **Metric 5. Special Wetlands.**  
max 10 pts. subtotal

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** | **20.5** **Metric 6. Plant communities, interspersions, microtopography.**  
max 20 pts. subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 1 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

**Invasives present:**  
hybrid cattail, phragmites

- 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.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

**20.5** **Category 1**

# 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	0	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	9.5	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	-1	
	TOTAL SCORE	20.5	Category based on score breakpoints <b>1</b>

**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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/3/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 9	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Riverine	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 9 is located north/northwest of the westbound lanes of Interstate 90/Ohio State Route 2 within the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	41.407847, -82.102988
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/3/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz;Or
Delineation report/map	ESR



<b>Name of Wetland:</b> Wetland 9	
<b>Wetland Size (acres, hectares):</b>	0.009 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 13	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Michael Whitacre, Emma Given. | **Date:** 2023-08-03

<b>0</b>	<b>0</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 9  
**TYPE:** PEM  
**Continues Offsite?** no

- 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)

<b>6</b>	<b>6</b>
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)

<b>5</b>	<b>11</b>
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/dbl check avg.
- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>5</b>	<b>16</b>
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

<b>16</b>
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Michael Whitacre, Emma Given.. | **Date:** 2023-08-03

16

subtotal first page

0

16

**Metric 5. Special Wetlands.**

max 10 pts.

subtotal

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

13

**Metric 6. Plant communities, interspersions, microtopography.**

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- \* quatic bed
- 1 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

**Invasives present:**  
phragmites

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

13

**Category 1**

# 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	0	
	Metric 2. Buffers and surrounding land use	6	
	Metric 3. Hydrology	5	
	Metric 4. Habitat	5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	13	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	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	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	<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.**

## Background Information

<b>Name:</b> Emma Given	
<b>Date:</b> 8/3/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 10	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Riverine	
<b>Location of Wetland:</b> include map, address, north arrow, landmarks, distances, roads, etc.  Wetland 10 is located south of the eastbound lanes of Interstate 90/Ohio State Route 2 within the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	41.406916, -82.102481
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/3/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Or
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 10	
<b>Wetland Size (acres, hectares):</b>	0.004 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 24	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Emma Given | **Date:** 2023-08-03

**0** | **0**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 10  
**TYPE:** PEM  
**Continues Offsite?** yes

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)

**14** | **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)

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)

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)

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/dbl check avg.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**6** | **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.

- 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 type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" 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

**28**  
subtotal this page



**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Emma Given | **Date:** 2023-08-03

28

subtotal first page

0

28

**Metric 5. Special Wetlands.**

max 10 pts.

subtotal

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

24

**Metric 6. Plant communities, interspersions, microtopography.**

max 20 pts.

subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 1 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

**Invasives present:**  
phragmites

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

24

**Category 1**

# 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	0	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	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
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	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	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose one
Category 1
Category 2
Category 3

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

## Background Information

<b>Name:</b> Emma Given	
<b>Date:</b> 8/3/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 11	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Riverine	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b>  Wetland 11 is located north and south of the existing pedestrian trail maintained by Lorain County Metroparks (Black River Reservation - Bur Oak) in the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	41.412729, -82.099456
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/3/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Ch;Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 11	
<b>Wetland Size (acres, hectares):</b>	0.035 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 18	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Emma Given | **Date:** 2023-08-03

<b>0</b>	<b>0</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** ' Wetland 11  
**TYPE:** PEM  
**Continues Offsite?** no

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)

<b>4</b>	<b>4</b>
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)

<b>12</b>	<b>16</b>
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/dbl check avg.

- 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 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: _____

<b>6</b>	<b>22</b>
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 checked="" type="checkbox"/> shrub/sapling removal
<input 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

<b>22</b>
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Emma Given | **Date:** 2023-08-03

**22**

subtotal first page

<b>0</b>	<b>22</b>
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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)

<b>-4</b>	<b>18</b>
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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
- 1 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

**Invasives present:**  
phragmites

- 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.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

<b>18</b>	<b>Category 1</b>
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# 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	0	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	-4	
	TOTAL SCORE	18	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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/3/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 12	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Slope	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b>  Wetland 12 is located south of Ford Rd and west of the existing entrance roadway to Lorain County Metropark's Black River Reservation - Bur Oak in the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	41.412104, -82.098541
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/3/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 12	
<b>Wetland Size (acres, hectares):</b>	0.094 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 20	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Jenna Slabe | **Date:** 2023-08-03

<b>0</b>	<b>0</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** \_\_\_\_\_  
**TYPE:** PEM Wetland 12  
**Continues Offsite?** yes

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)

<b>4</b>	<b>4</b>
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)

<b>8</b>	<b>12</b>
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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>8</b>	<b>20</b>
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

<b>20</b>
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Jenna Slabe | **Date:** 2023-08-03

20

subtotal first page

0	20
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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)

0	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.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

**Invasives present:**  
European buckthorn, hybrid cattail, narrow-leaved cattail

20

**Category 1**

# 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	0	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersed, microtopography	0	
	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</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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/8/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 13	
<b>Vegetation Communit(ies):</b> PSS	
<b>HGM Class(es):</b> Riverine	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 13 is located south/southeast of Interstate 90/Ohio State Route 2 eastbound lanes and west of Gulf Rd in the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	41.415001, -82.094004
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/8/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz; CIA
Delineation report/map	ESR



<b>Name of Wetland:</b> Wetland 13	
<b>Wetland Size (acres, hectares):</b>	0.203 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 34	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Jenna Slabe | **Date:** 2023-08-08

**1** | **1**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 13  
**TYPE:** PSS

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)

**14** | **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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**9** | **31**  
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

**31**  
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Jenna Slabe | **Date:** 2023-08-08

**31**

subtotal first page

<b>0</b>	<b>31</b>
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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)

<b>3</b>	<b>34</b>
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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
- 1 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

**Invasives present:**

European buckthorn, hybrid cattail, narrow-leaved cattail, purple loosestrife

- 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.

- 0 Vegetated hummocks/tussocks
- 1 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 0 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

**34**

1 Or 2

# 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	7	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	34	Category based on score breakpoints 1 or 2

**Complete Wetland Categorization Worksheet.**



## Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES  Wetland is categorized as a Category 3 wetland	<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?	YES  Wetland is assigned to the appropriate category based on the scoring range	<input checked="" 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?	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> NO	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose one
Category 1
**Category 2**
Category 3

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

## Background Information

<b>Name:</b> Emma Given	
<b>Date:</b> 8/9/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 14	
<b>Vegetation Communit(ies):</b> PFO, PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 14 is located east of Interstate 90/Ohio State Route 2 eastbound lanes and northwest of Loyola Dr in Sheffield Village, Lorain County OH.	
Lat/Long or UTM Coordinate	41.418856, -82.085185
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/9/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Mo; Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 14	
<b>Wetland Size (acres, hectares):</b>	0.148 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 34	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Emma Given | **Date:** 2023-08-09

<b>1</b>	<b>1</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:**  
**TYPE:** PFO Wetland 14

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)

<b>4</b>	<b>5</b>
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)

<b>12</b>	<b>17</b>
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/dbl check avg.

- 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)

<b>Check all disturbances observed</b>	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>14</b>	<b>31</b>
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)

<b>Check all disturbances observed</b>	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

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subtotal this page



**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Emma Given | **Date:** 2023-08-09

31

subtotal first page

0

31

**Metric 5. Special Wetlands.**

max 10 pts. subtotal

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

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**Metric 6. Plant communities, interspersions, microtopography.**

max 20 pts. subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 0 Emergent
- 0 Shrub
- 1 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

**Invasives present:**  
European buckthorn

- 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.

- 0 Vegetated hummocks/tussucks
- 1 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 0 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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**Category 1 or 2**

# 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	4	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	34	Category based on score breakpoints 1 or 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:</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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/11/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 15	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 15 is located east of the entrance ramp to Interstate 90/Ohio State Route 2 in the city of Avon, Lorain County OH.	
Lat/Long or UTM Coordinate	41.463527, -82.051948
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0601
Site Visit	8/11/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 15	
<b>Wetland Size (acres, hectares):</b>	0.118 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 8	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Emma Given | **Date:** 2023-08-11

<b>1</b>	<b>1</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** ' ' **TYPE:** PEM **Wetland 15**  
**Continues Offsite?** yes

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)

<b>1</b>	<b>2</b>
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)

<b>6</b>	<b>8</b>
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/dbl check avg.

- 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 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 checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>3</b>	<b>11</b>
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

<b>11</b>
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Emma Given | **Date:** 2023-08-11

**11**

subtotal first page

<b>0</b>	<b>11</b>
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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)

<b>-3</b>	<b>8</b>
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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
- 1 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

**Invasives present:**  
hybrid cattail, phragmites, purple loosestrife

- 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.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 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

**8**

**Category 1**

# 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	1	
	Metric 3. Hydrology	6	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	8	Category based on score breakpoints <b>1</b>

**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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/14/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 16	
<b>Vegetation Communit(ies):</b> PSS, PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 16 is located north of Abbe Rd and west of Interstate 90/Ohio State Route 2 in Sheffield Village, Lorain County OH.	
Lat/Long or UTM Coordinate	41.448280, -82.072275
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0601
Site Visit	8/14/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 16	
<b>Wetland Size (acres, hectares):</b>	1.478 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 18	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-14

<b>2</b>	<b>2</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 16  
**TYPE:** PEM PSS  
**Continues Offsite?** yes

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)

<b>4</b>	<b>6</b>
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)

<b>7</b>	<b>13</b>
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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>4</b>	<b>17</b>
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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 checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

<b>17</b>
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-14

17

subtotal first page

0	17
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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)

1	18
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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
- 1 Emergent
- 1 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

**Invasives present.**  
phragmites, purple loosestrife

- 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.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

18	Category 1
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# 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	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	7	
	Metric 4. Habitat	4	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	1	
	TOTAL SCORE	18	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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/14/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 17	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 17 is located south of Abbe Rd and west of Interstate 90/Ohio State Route 2 westbound lanes in Sheffield Village, Lorain County OH.	
Lat/Long or UTM Coordinate	41.4442756, -82.076355
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0601
Site Visit	8/14/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz; Ms
Delineation report/map	ESR



<b>Name of Wetland:</b> Wetland 17	
<b>Wetland Size (acres, hectares):</b>	0.190 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 22	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-14

<b>1</b>	<b>1</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:**  
**TYPE:** PEM Wetland 17  
**Continues Offsite?** yes

- 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)

<b>4</b>	<b>5</b>
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)

<b>9</b>	<b>14</b>
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)
- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>8</b>	<b>22</b>
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

<b>22</b>
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subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-14

22

subtotal first page

0	22
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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)

0	22
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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
- 1 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

**Invasives present:**  
hybrid cattail, narrow-leaved cattail, phragmites, purple loosestrife

- 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.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

22

**Category 1**

# 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	4	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, 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
<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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/14/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 18	
<b>Vegetation Communit(ies):</b> PEM, PFO	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 18 is located west of the westbound lanes of Interstate 90/Ohio State Route 2 in Sheffield Village, Lorain County OH.	
Lat/Long or UTM Coordinate	41.439253, -82.079060
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0601
Site Visit	8/14/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Ms
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 18	
<b>Wetland Size (acres, hectares):</b>	0.396 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 27	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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 viridicarinarum</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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-14

<b>2</b>	<b>2</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:**  
**TYPE:** PFO PEM Wetland 18  
**Continues Offsite?** yes

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)

<b>4</b>	<b>6</b>
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)

<b>9</b>	<b>15</b>
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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>9</b>	<b>24</b>
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 checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input 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

<b>24</b>
subtotal this page



**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-14

**24**

subtotal first page

<b>0</b>	<b>24</b>
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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)

<b>3</b>	<b>27</b>
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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
- 2 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.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 1 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

**Invasives present:**  
 hybrid cattail, narrow-leaved cattail, phragmites, purple loosestrife

**27**

**Category 1**

# 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	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersed, 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
<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

<b>Name:</b> Emma Given	
<b>Date:</b> 8/14/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 19	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Riverine	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 19 is located west of Interstate 90/Ohio State Route 2 westbound lanes in Sheffield Village, Lorain County OH.	
Lat/Long or UTM Coordinate	41.437726, -82.080165
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0601
Site Visit	8/14/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Ms
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 19	
<b>Wetland Size (acres, hectares):</b>	0.039 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 24	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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 viridicarinarum</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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-14

<b>0</b>	<b>0</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:**  
**TYPE:** PEM Wetland 19  
**Continues Offsite?** yes

- 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)

<b>9</b>	<b>9</b>
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)

<b>8</b>	<b>17</b>
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/dbl check avg.
- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>8</b>	<b>25</b>
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

<b>25</b>
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-14

25

subtotal first page

0	25
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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)

-1	24
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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
- 1 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

**invasives present:**  
phragmites

- 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.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

24	Category 1
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# 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	0	
	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, 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
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	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	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose one
Category 1
Category 2
Category 3

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

## Background Information

<b>Name:</b> Emma Given	
<b>Date:</b> 8/15/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> egiven@trccompanies.com	
<b>Name of Wetland:</b> Wetland 20	
<b>Vegetation Communit(ies):</b> PFO	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 20 is located west of the westbound lanes of Interstate 90/Ohio State Route 2 in Sheffield Village, Lorain County OH.	
Lat/Long or UTM Coordinate	41.436018, -82.081472
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0601
Site Visit	8/15/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 20	
<b>Wetland Size (acres, hectares):</b>	0.641 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 34	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-15

<b>2</b>	<b>2</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:**  
**TYPE:** PFO Wetland 20  
**Continues Offsite?** yes

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)

<b>4</b>	<b>6</b>
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)

<b>8</b>	<b>14</b>
max 10 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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>13</b>	<b>27</b>
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 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

<b>27</b>
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subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Emma Given, Michael Whitacre | **Date:** 2023-08-15

27

subtotal first page

0	27
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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)

7	34
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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
- 2 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

**Invasives present:**  
European buckthorn

- 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.

- 0 Vegetated hummocks/tussucks
- 2 Coarse woody debris >15cm (6in)
- 2 Standing dead >25cm (10in) dbh
- 0 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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**Category 1 or 2**

# 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	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	13	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	7	
	TOTAL SCORE	34	Category based on score breakpoints 1 or 2

**Complete Wetland Categorization Worksheet.**

## Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES  Wetland is categorized as a Category 3 wetland	<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?	YES  Wetland is assigned to the appropriate category based on the scoring range	<input checked="" 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?	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> NO	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose one
Category 1
 Category 2
Category 3

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

## Background Information

<b>Name:</b> Jenna Slabe	
<b>Date:</b> 8/9/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> jslabe@trccompanies.com	
<b>Name of Wetland:</b> Wetland 21	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 21 is located north of Colorado Ave and west of Interstate 90/Ohio State Route 2 westbound exit ramp in the city of Avon, Lorain County OH.	
Lat/Long or UTM Coordinate	41.464741, -82.052597
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0601
Site Visit	8/9/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR



<b>Name of Wetland:</b> Wetland 21	
<b>Wetland Size (acres, hectares):</b>	0.579 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 12	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Lily Sobey | **Date:** 2023-08-09

2	2
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** ' '   
**TYPE:** PEM Wetland 21   
**Continues Offsite?** yes

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)

2	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)

6	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/dbl check avg.

- 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 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 checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

5	15
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

15
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Lily Sobey | **Date:** 2023-08-09

**15**

subtotal first page

<b>0</b>	<b>15</b>
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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)

<b>-3</b>	<b>12</b>
-----------	-----------

max 20 pts. subtotal

**Metric 6. Plant communities, interspersions, microtopography.**

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 1 Emergent
- 1 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

**Invasives present:**  
hybrid cattail, phragmites, purple loosestrife

- 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.

- 0 Vegetated hummocks/tussucks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

**12**

**Category 1**

# 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	2	
	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	6	
	Metric 4. Habitat	5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	-3	
	TOTAL SCORE	12	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	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	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	<b>Category 1</b>	Category 2	Category 3
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**End of Ohio Rapid Assessment Method for Wetlands.**

## Background Information

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 7/31/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 22	
<b>Vegetation Communit(ies):</b> PFO, PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 22 is located north of Interstate 90/Ohio State Route 2 westbound lanes in Elyria Twp, Lorain County OH.	
Lat/Long or UTM Coordinate	41.403778, -82.138787
USGS Quad Name	Lorain
County	Lorain
Township	Elyria
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	7/31/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Mo; JsA; MtA; Om
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 22	
<b>Wetland Size (acres, hectares):</b>	0.594 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 29	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Erin Van Nort | **Date:** 2023-07-31

**2** | **2**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 22  
**TYPE:** PFO  
**Continues Offsite?** yes

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** | **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)

**10** | **19**  
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 0.7 m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- 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 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 checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**8** | **27**  
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 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

**27**

subtotal this page



**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Erin Van Nort | **Date:** 2023-07-31

27

subtotal first page

0	27
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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)

2	29
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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
- 0 Emergent
- 0 Shrub
- 1 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

**Invasives present:**  
European buckthorn, narrow-leaved cattail, phragmites, purple loosestrife

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 0 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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**Category 1**

# 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	2	
	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	2	
	TOTAL SCORE	29	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	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	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose one
Category 1
Category 2
Category 3

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

## Background Information

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 7/31/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 23	
<b>Vegetation Communit(ies):</b> PSS, PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b>  Wetland 23 is located south/southwest of Ohio State Route 2 eastbound lanes, north of Interstate 90 westbound lanes, and east of Murray Ridge Rd in Elyria Twp, Lorain County OH.	
Lat/Long or UTM Coordinate	41.404183, -82.145960
USGS Quad Name	Lorain
County	Lorain
Township	Elyria
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0703
Site Visit	7/31/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 23	
<b>Wetland Size (acres, hectares):</b>	0.029 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 28	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Jenna Slabe | **Date:** 2023-07-31

**0** | **0**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 23  
**TYPE:** PSS  
**Continues Offsite?** yes

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** | **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)

**10.5** | **14.5**  
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)

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)

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/dbl check avg.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

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: _____

**12.5** | **27**  
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" 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

**27**

subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Jenna Slabe | **Date:** 2023-07-31

27

subtotal first page

0	27
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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)

1	28
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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
- 0 Emergent
- 1 Shrub
- 0 Forest
- Mudflats
- 0 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

**Invasives present:**  
narrow-leaved cattail, purple loosestrife

- 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.

- 0 Vegetated hummocks/tussocks
- 1 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 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

**Category 1**

# 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	0	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	10.5	
	Metric 4. Habitat	12.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	1	
	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
<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

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 7/31/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 24	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 24 is located north of Interstate 90 westbound lanes and east of Murray Ridge Rd in Elyria Twp, Lorain County OH.	
Lat/Long or UTM Coordinate	41.403640, -82.147585
USGS Quad Name	Lorain
County	Lorain
Township	Elyria
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0703
Site Visit	7/31/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Om
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 24	
<b>Wetland Size (acres, hectares):</b>	0.109 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 28.5	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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 viridicarinarum</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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Jenna Slabe | **Date:** 2023-07-31

**1** | **1**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 24  
**TYPE:** PEM  
**Continues Offsite?** no

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** | **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)

**10** | **19**  
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/dbl check avg.

- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**9.5** | **28.5**  
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" 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

**28.5**

subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Jenna Slabe | **Date:** 2023-07-31

**28.5**  
subtotal first page

**0** | **28.5** **Metric 5. Special Wetlands.**  
max 10 pts. subtotal

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** | **28.5** **Metric 6. Plant communities, interspersions, microtopography.**  
max 20 pts. subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 1 Aquatic bed
- 0 Emergent
- 0 Shrub
- 0 Forest
- Mudflats
- 0 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

**Invasives present:**  
European buckthorn, narrow-leaved cattail, purple loosestrife, reed, canary grass

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 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

**28.5** | **Category 1**

# 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	8	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	28.5	Category based on score breakpoints <b>1</b>

**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

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 8/1/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 25	
<b>Vegetation Communit(ies):</b> PSS, PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 25 is located west of Interstate 90 westbound lanes, north of the Ohio Turnpike toll booth and south of Dellefield Rd in Elyria Twp, Lorain County OH.	
Lat/Long or UTM Coordinate	41.402428, -82.151384
USGS Quad Name	Lorain
County	Lorain
Township	Elyria
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0703
Site Visit	8/1/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Om; Mo
Delineation report/map	ESR



<b>Name of Wetland:</b> Wetland 25	
<b>Wetland Size (acres, hectares):</b>	1.449 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 26	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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 viridicarinarum</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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Erin Van Nort | **Date:** 2023-08-01

**2** | **2**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 25  
**TYPE:** PSS  
**Continues Offsite?** yes

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** | **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 0.7 m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- 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 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 checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**8** | **22**  
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

**22**  
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Erin Van Nort | **Date:** 2023-08-01

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)

4

26

max 20 pts

subtotal

**Metric 6. Plant communities, interspersions, microtopography.**

**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 2 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.

- 0 Vegetated hummocks/tussocks
- 1 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 2 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

**Invasives present:**  
hybrid cattail, purple loosestrife

26

**Category 1**

# 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	2	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	4	
	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	<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	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	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose one
Category 1
Category 2
Category 3

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

## Background Information

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 8/1/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 26	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Riverine	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 26 is located in the interstate median between the eastbound and westbound lanes of Interstate 90/Ohio State Route 2 in Elyria Twp, Lorain County OH	
Lat/Long or UTM Coordinate	41.403517, -82.140546
USGS Quad Name	Lorain
County	Lorain
Township	Elyria
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/1/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 26	
<b>Wetland Size (acres, hectares):</b>	0.022 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 19	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Erin Van Nort | **Date:** 2023-08-01

**0** | **0**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 26

**TYPE:** PEM

**Continues Offsite?** no

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)

**2** | **2**  
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)

**14** | **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/dbl check avg.

- 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 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 checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**6** | **22**  
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 checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input 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

**22**  
subtotal this page



**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Erin Van Nort | **Date:** 2023-08-01

22

subtotal first page

0	22
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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	19
----	----

max 20 pts. subtotal

### Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 1 Emergent
- 0 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

**Invasives present:**  
narrow-leaved cattail, purple loosestrife

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 1 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

19	Category 1
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# 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	0	
	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	-3	
	TOTAL SCORE	19	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

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 8/2/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 27	
<b>Vegetation Communit(ies):</b> PFO, PEM	
<b>HGM Class(es):</b> Slope	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 27 is located north of the westbound entrance ramp to Interstate 90/Ohio State Route 2 and west of Lorain Blvd in the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	41.406540, -82.118271
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/2/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 27	
<b>Wetland Size (acres, hectares):</b>	0.027 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 29	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Jenna Slabe | **Date:** 2023-08-02

**0** | **0**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 27  
**TYPE:** PFO  
**Continues Offsite?** no

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** | **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 (2 r. 6in) (3)
- 0.4 to 0.7 m (15.7 to 2 r. 6in) (2)
- <0.4m (<15. r.in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- 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 (r)
- 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: _____

**10** | **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.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

**26**  
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Jenna Slabe | **Date:** 2023-08-02

26

subtotal first page

0	26
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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	29
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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
- 0 Emergent
- 0 Shrub
- 1 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 0 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

**invasives present:**  
phragmites, purple loosestrife

29

Category 1

# 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	0	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	29	Category based on score breakpoints <b>1</b>

**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

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 8/4/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 28	
<b>Vegetation Communit(ies):</b> PFO, PEM	
<b>HGM Class(es):</b> Slope	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 28 is located north of the westbound entrance ramp to Interstate 90/Ohio State Route 2 in the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	41.405755, -82.119855
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/4/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 28	
<b>Wetland Size (acres, hectares):</b>	0.018 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 28.5	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) **Rater(s):** Erin Van Nort, Jenna Slabe, Mi... **Date:** 2023-08-04

**0** **0**  
max 6 pts. subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 28  
**TYPE:** PFO  
**Continues Offsite?** no

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** **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 0.7 m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- 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 type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**11.5** **27.5**  
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

**27.5**

subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Jenna Slabe, Mi... | **Date:** 2023-08-04

**27.5**  
subtotal first page

**0** | **27.5** **Metric 5. Special Wetlands.**  
max 10 pts. subtotal

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** | **28.5** **Metric 6. Plant communities, interspersions, microtopography.**  
max 20 pts. subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 0 Emergent
- 1 Shrub
- 0 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

**Invasives present:**  
phragmites

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

**Vegetation Community Cover Scale**

0	Absent or comprises <0.1ha (0.27, 1 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

**28.5** | **Category 1**

# 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	0	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	11.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	28.5	Category based on score breakpoints <b>1</b>

**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	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	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose one
Category 1
Category 2
Category 3

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

## Background Information

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 8/8/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 29	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Slope	
<p><b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b></p> <p>Wetland 29 is located north of the Interstate 90/Ohio State Route 2 westbound exit ramps to State Route 57 in the city of Elyria, Lorain County OH.</p>	
Lat/Long or UTM Coordinate	41.405454, -82.113296
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/8/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz
Delineation report/map	ESR



<b>Name of Wetland:</b> Wetland 29	
<b>Wetland Size (acres, hectares):</b>	0.082 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 17	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Jenna Slabe | **Date:** 2023-08-08

**0** | **0**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 29  
**TYPE:** PEM  
**Continues Offsite?** no

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)

**11** | **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 0.7 m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- 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 checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**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.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input 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

**20**

subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Jenna Slabe | **Date:** 2023-08-08

20

subtotal first page

0	20
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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	17
----	----

max 20 pts.

subtotal

### Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 1 Emergent
- 0 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

**Invasives present:**  
phragmites

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

17

**Category 1**

# 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	0	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	-3	
	TOTAL SCORE	17	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>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 <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><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    
 **Category 1**    
 Category 2    
 Category 3

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

## Background Information

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 8/8/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 30	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Slope	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 30 is located north of the westbound exit ramp from Interstate 90/Ohio State Route 2 to State Route 57 in the city of Elyria, Lorain County OH.	
Lat/Long or UTM Coordinate	41.405398, -82.112625
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0602
Site Visit	8/8/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Cz; Or
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 30	
<b>Wetland Size (acres, hectares):</b>	0.157 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 19	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Jenna Slabe | **Date:** 2023-08-08

**1** | **1**  
max 6 pts. | subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:** Wetland 30  
**TYPE:** PEM  
**Continues Offsite?** yes

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** | **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)

**7** | **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/dbl check avg.

- 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 checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

**6** | **22**  
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 checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input 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

**22**  
subtotal this page



**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Jenna Slabe, Jenna Slabe | **Date:** 2023-08-08

22

subtotal first page

0	22
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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	19
----	----

max 20 pts.

subtotal

### Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 1 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

**Invasives present:**  
phragmites

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 0 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

19	Category 1
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# 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	8	
	Metric 3. Hydrology	7	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	19	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

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 8/10/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 31	
<b>Vegetation Communit(ies):</b> PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> Wetland 31 is located north/northwest of the westbound lanes of Interstate 90/Ohio State Route 2 in the city of Avon and in Sheffield Village, Lorain County OH.	
Lat/Long or UTM Coordinate	41.456621, -82.064021
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0601
Site Visit	8/10/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Mr; Ln; Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 31	
<b>Wetland Size (acres, hectares):</b>	0.422 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 20	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Erin Van Nort, Michael Whitacre | **Date:** 2023-08-10

<b>2</b>	<b>2</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:**  
**TYPE:** PEM Wetland 31  
**Continues Offsite?** yes

- 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)

<b>1</b>	<b>3</b>
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)

<b>14</b>	<b>17</b>
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/dbl check avg.
- 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 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 checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>7</b>	<b>24</b>
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" 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

<b>24</b>
subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) **Rater(s):** Erin Van Nort, Michael Whitacre **Date:** 2023-08-10

24

subtotal first page

0

24

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

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
- 1 Emergent
- 0 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

**Invasives present:**  
European buckthorn, narrow-leaved cattail, phragmites, purple loosestrife

- 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.

- 0 Vegetated hummocks/tussocks
- 0 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 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

**Category 1**

# 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	2	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	-4	
	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
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	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	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

### Final Category

Choose one
Category 1
Category 2
Category 3

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

## Background Information

<b>Name:</b> Erin Van Nort	
<b>Date:</b> 8/11/2023	
<b>Affiliation:</b> TRC Companies, Inc.	
<b>Address:</b> 1382 West Ninth Street, Suite 400	
<b>Phone Number:</b> 216-347-3342	
<b>e-mail address:</b> evannort@trccompanies.com	
<b>Name of Wetland:</b> Wetland 32	
<b>Vegetation Communit(ies):</b> PFO, PEM	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland:</b> include map, address, north arrow, landmarks, distances, roads, etc. Wetland 32 is located north of French Creek Rd and west of the westbound lanes of Interstate 90/Ohio State Route 2 in Sheffield Village, Lorain County OH.	
Lat/Long or UTM Coordinate	41.453281, -82.068141
USGS Quad Name	Avon
County	Lorain
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	04110001 0601
Site Visit	8/11/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Mr; Cz
Delineation report/map	ESR

<b>Name of Wetland:</b> Wetland 32	
<b>Wetland Size (acres, hectares):</b>	0.643 acres
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See ESR Figure 6 Delineated Resources Map	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 25	<b>Category:</b> 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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.	X	
<b>Step 3</b>	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.	X	
<b>Step 4</b>	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.	X	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
<b>Step 6</b>	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.	X	

**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	<b>Critical Habitat.</b> 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	<b>Threatened or Endangered Species.</b> 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	<b>Documented High Quality Wetland.</b> 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	<b>Significant Breeding or Concentration Area.</b> 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	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> 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	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<input checked="" type="radio"/> NO  Go to Question 7
7	<b>Fens.</b> 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	<b>"Old Growth Forest."</b> 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

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b>  Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b>  Go to Question 10
<b>9b</b>	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
<b>9c</b>	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
<b>9d</b>	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
<b>9e</b>	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
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b>  Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> 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	<b>NO</b>  Complete Quantitative Rating

**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<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:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Michael Whitacre, Erin Van Nor.. | **Date:** 2023-08-11

<b>2</b>	<b>2</b>
max 6 pts.	subtotal

**Metric 1. Wetland Area (size).**

**RESOURCE ID:**  
**TYPE:** PFO      Wetland 32  
**Continues Offsite?** yes

- 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)

<b>4</b>	<b>6</b>
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)

<b>10</b>	<b>16</b>
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. Minimum 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/dbl check avg.
- 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 checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other: _____

<b>8</b>	<b>24</b>
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 checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" 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

<b>24</b>
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subtotal this page

**Site:** ODOT, LOR-90-10.76 (PID 107714) | **Rater(s):** Michael Whitacre, Erin Van Nor.. | **Date:** 2023-08-11

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)

1	25
---	----

max 20 pts. subtotal

**Metric 6. Plant communities, interspersions, microtopography.**

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 1 Shrub
- 0 Forest
- 0 Mudflats
- 0 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

**Invasives present:**  
hybrid cattail, narrow-leaved cattail, phragmites, purple loosestrife

- X 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.

- 0 Vegetated hummocks/tussucks
- 1 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

**Vegetation Community Cover Scale**

0	Absent or comprises <0.1ha (0.2 71 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

25

**Category 1**

# 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	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	25	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.**

**Appendix 4**  
**Agency Data Requests**



## Given, Emma

---

**From:** Korfel, Lindsey M <lindsey\_korfel@fws.gov>  
**Sent:** Wednesday, August 23, 2023 10:21 AM  
**To:** Given, Emma; Hallberg, Karen I  
**Cc:** Schimmoeller, Stacy  
**Subject:** Re: [EXTERNAL] Bat buffer and eastern massasauga polygon request for ODOT Project: LOR-90-10.76 (PID 107714)

This is an **External** email. Do not click links or open attachments unless you validate the sender and know the content is safe.

**ALWAYS** hover over the link to preview the actual URL/site and confirm its legitimacy.

Good Morning!

Please see my response below. Have a great day!

Best,

**Lindsey Korfel** ([She/her](#))

Wildlife Biologist  
Transportation Liaison

| U.S. Fish and Wildlife Service Ohio Ecological Services Field Office |  
| 4625 Morse Road Suite 104 | Columbus, OH 43230 | direct line 614-528-9707 |

---

**From:** Given, Emma <EGiven@trccompanies.com>  
**Sent:** Friday, August 18, 2023 9:57 AM  
**To:** Korfel, Lindsey M <lindsey\_korfel@fws.gov>; Hallberg, Karen I <Karen\_Hallberg@fws.gov>  
**Cc:** Schimmoeller, Stacy <SSchimmoeller@trccompanies.com>  
**Subject:** [EXTERNAL] Bat buffer and eastern massasauga polygon request for ODOT Project: LOR-90-10.76 (PID 107714)

**This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.**

Hello,

This LOR-90-10.76 (PID 107714) project is a federal aid highway project and will be coordinated with your office (if coordination is required) through ODOT-OES Ecological MOA process and OHPBO. This is a request for bat buffer, eastern massasauga polygon, and known bald eagle nest buffer information only, and a technical guidance letter is not required.

Project Centroid Coordinates:

Lat: 41.418655

Long: -82.088704

This project is located within the following bat buffer:

- BLUE (IBAT hibernaculum)
- PURPLE (NLEB hibernaculum)
- RED (IBAT swarming)
- YELLOW (Acoustic IBAT detection)
- GOLD (IBAT maternity colony)
- BROWN (NLEB maternity colony)
- GREEN (Male/non-reproductive female IBAT)
- Project not located in a bat buffer

The project is located within an eastern massasauga range polygon:

- YES
- NO

This project is located within a known bald eagle nest buffer

- YES
- NO

Note: Neither the Service nor the Ohio Division of Wildlife maintains a complete database of current BAEG nest locations. Therefore, the project sponsor (or representative acting on their behalf) is still responsible for surveying the project area and consulting further with this office, prior to commencement of any project activity, if a nest is identified within a 0.5-mile radius of the project site.

**EmmaLeigh Given, PhD**

Ecologist  
Planning, Permitting, and Licensing



1382 W 9<sup>th</sup> St, Suite 400, Cleveland, OH 44113  
C 330.446.0265  
[LinkedIn](#) | [Twitter](#) | [Blog](#) | [TRCcompanies.com](#)



# Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Jeff Johnson, Chief  
Division of Natural Areas & Preserves  
2045 Morse Rd, Building H  
Columbus, Ohio 43229

September 18, 2023

EmmaLeigh Given  
TRC Environmental Corporation  
1382 W 9th St, Suite 400  
Cleveland, OH 44113

Re: DR23\_450

Dear EmmaLeigh,

I have reviewed the Natural Heritage Database for the LOR-90-10.76 (PID 107714) project area in Sheffield, Elyria and Avon Townships, Lorain County, Ohio. We have records for 3 rare species within a half-mile of the project area for plants and within one-mile of the project area for animals and aother features. They are listed below and shown on the attached map by number in blue.

1. Round-leaved Dogwood (*Cornus rugosa*), T
2. Canada Buffalo-berry (*Shepherdia canadensis*), T
3. Tower Mustard (*Turritis glabra*), P

Conservation status abbreviations are as follows: 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 = federally endangered, and FT = federally threatened. Records searched date from 1980.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does 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.

Please contact me by email or voicemail at 614-265-6818 if I can be of further assistance.

Sincerely,

A handwritten signature in cursive script, reading "Kendra Millam".

Kendra Millam  
Ohio Natural Heritage Program

 LOR-90-10.76 (PID 107714) project area

