	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization		
Version 5.0	Background Information		
version 2.0	Scoring Boundary Worksheet Narrative Rating	Ohio EPA, Division of Surface Water	
	Field Form Quantitative Rating	Final: February 1, 2001	
	ORAM Summary Worksheet		
	Wetland Categorization Worksheet		

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

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Date: 11/10/2021

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Stantec

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Name of Wetland: Wetland 7

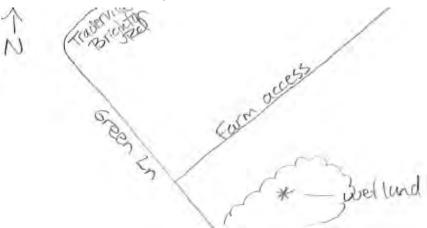
Vegetation Communit(ies):

PEM

HGM Class(es):

Depression

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate 39.982139, -83.459932				
USGS Quad Name London, OH				
County Madison County				
Township Somerford Twp				
Section and Subsection N/A				
Hydrologic Unit Code 050600012004				
Site Visit 11/10/2021				
National Wetland Inventory Map				
Ohio Wetland Inventory Map				
Soil Survey Soil survey of Madison County				
Delineation report/map Figure 4 - Wetland and Waterbody Delineation				

Name of Wetland: Wetland 7 Wetland Size (acres, hectares): 0.25 acres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Comments, Narrative Discussion, Justification of Category Changes: Potentially isolated Final score: 13 Category: 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

Savion - Oak Run Solar Angela Sjollema 11/10/2021

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		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.

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#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of	YFS	NO V
•	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	Wetland should be evaluated for possible Category 3 status	Go to Question 2
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland.	NO Go to Question 3
		Go to Question 3	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	NO Solution 5
_	Onto your A Walley do by the control by the of the office (A control	Go to Question 5	NO NO
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or	Wetland is a Category 1 wetland	NO Solution 6
	no vegetation?	Go to Question 6	
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO X Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	-	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		_
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Savion - 0	Oak Run Solar	Rater(s): Angela Sjollema		Date: 11/10/2021
1 1	Metric 1. Wetland A	rea (size).		
max 6 pts. subtotal	Select one size class and assign sco >50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1. ✓ 0.1 to <0.3 acres (0.04ha) (0 pts)) (0.2ha) (5 pts) ha) (4 pts) (3 pts) 2ha) (2pts) (0.12ha) (1 pt)		
1 2	Metric 2. Upland bu		ng land use.	
max 14 pts. subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers Intensity of surrounding land use VERY LOW. 2nd growth o LOW. Old field (>10 years MODERATELY HIGH. Re	m (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around e 10m to <25m (32ft to <82ft) around average <10m (<32ft) around wetlan	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallo	ow field. (3)
5 7	Metric 3. Hydrology			
max 30 pts. subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) ✓ Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (la 3c. Maximum water depth. Select or >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) ✓ <0.4m (<15.7in) (1) 3e. Modifications to natural hydrolog	ce water (3) ke or stream) (5) 3d. nly one and assign score.	Part of wetland/u Part of riparian or Duration inundation/sat Semi- to permane Regularly inunda Seasonally inunda Seasonally satura	nin (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3)
	Recovered (7) Recovering (3) Recent or no recovery (1)	ditch tile dike weir stormwater input	point source (nor filling/grading road bed/RR trac dredging other	
4 11	Metric 4. Habitat Al	teration and Develo	pment.	
max 20 pts. subtotal	 4a. Substrate disturbance. Score on None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select onl Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 			
<u>,</u>	4c. Habitat alteration. Score one or None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting selective cutting	shrub/sapling ren herbaceous/aqua sedimentation dredging	
subtotal this pa	•	woody debris removal toxic pollutants	farming nutrient enrichme	ent
last revised 1 Februa	ry 2001 jjm			

Site: Savion - Oak Run Solar	Rater(s): Angela	Sjollema	Date: 11/10/2021
11 subtotal first page	, , g	,	
0 Metric 5. Special W	letlands.		
max 10 pts. subtotal Check all that apply and score as income Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies (Relict Wet Prairies (10) Known occurrence state/fe Significant migratory song Category 1 Wetland. See	5) wetland-unrestricted hydrol wetland-restricted hydrol Oak Openings) (10) ederal threatened or enda bird/water fowl habitat or Question 1 Qualitative R	ogy (5) Ingered species (10) usage (10) ating (-10)	
2 Metric 6. Plant con	nmunities, into	erspersion, microto	ppography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities	es. Vegetation	Community Cover Scale	
Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub	<u>0</u> 1	Absent or comprises <0.1ha (0.24 Present and either comprises small vegetation and is of moderate questions and its of low quantum part but is of low quantum part but but and low quantum part but but but and l	all part of wetland's uality, or comprises a
Forest Mudflats Open water	2	Present and either comprises sign vegetation and is of moderate of part and is of high quality	nificant part of wetland's uality or comprises a small
Other6b. horizontal (plan view) Interspers Select only one.	3 	Present and comprises significan vegetation and is of high quality	
High (5)	Narrative Do	escription of Vegetation Quality	
Moderately high(4) Moderate (3)	low	Low spp diversity and/or predomi disturbance tolerant native spec	cies
Moderately low (2) Low (1) ✓ None (0)	mod	Native spp are dominant compon- although nonnative and/or distu- can also be present, and specie	rbance tolerant native spp
6c. Coverage of invasive plants. Re to Table 1 ORAM long form for list.	Add	moderately high, but generally withreatened or endangered spp	
or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-1) Sparse 5-25% cover (-1)		A predominance of native species and/or disturbance tolerant nativabsent, and high spp diversity a the presence of rare, threatened	ve spp absent or virtually and often, but not always,
Nearly absent <5% cover	` '	Onen Weter Class Quality	
_ ✓ Absent (1) 6d. Microtopography.	Muditat and	Open Water Class Quality Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 acres)	cres)
0 Vegetated hummucks/tuss		Moderate 1 to <4ha (2.47 to 9.88	
0 Coarse woody debris >150		High 4ha (9.88 acres) or more	<u> </u>
0 Standing dead >25cm (10i 0 Amphibian breeding pools		raphy Cover Scale	
	0	Absent	
	1	Present very small amounts or if rof marginal quality	
	2	Present in moderate amounts, bu quality or in small amounts of his	ghest quality
13	3	Present in moderate or greater ar and of highest quality	ΠΟUΠIS

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Savion - Oak Run Solar Angela Sjollema 11/10/2021

		circle answer or insert	Result
		score	rtodit
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
ū	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	5	
	Metric 4. Habitat	4	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	13	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Angela Sjollema

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	Wetland is categorized as a Category 3 wetland	NO X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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	Wetland is categorized as a Category 1 wetland	NO X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	Category 2	Category 3	
Category 1	\overline{X}			

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization		
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version 2.0	Scoring Boundary Worksheet Narrative Rating	Ohio EPA, Division of Surface Water	
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Instructions

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It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

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Phone Number:

513-400-8773

e-mail address:

angela.sjollema@stantec.com

Name of Wetland: Wetland 8

Vegetation Communit(ies):

PSS

HGM Class(es):

Depression

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate 39.967344, -83.453176	
USGS Quad Name London, OH	
County Madison County	
Township Somerford Twp	
Section and Subsection N/A	
Hydrologic Unit Code 050600012004	
Site Visit 11/10/2021	
National Wetland Inventory Map	
Ohio Wetland Inventory Map N	
Soil Survey Soil survey of Madison County	
Delineation report/map Figure 4 - Wetland and Watebody Delineation	

Name of Wetland: Wetland 8 Wetland Size (acres, hectares): 0.04 acres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Comments, Narrative Discussion, Justification of Category Changes: Potentially isolated Final score: 37.5 Category: 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

Savion - Oak Run Solar 11/10/2021 Steps in properly establishing scoring boundaries done? not applicable Step 1 Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc. Identify the locations where there is physical evidence that hydrology Step 2 changes rapidly. Such evidence includes both natural and humaninduced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland. Step 3 Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.

> 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

In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be

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,

where the hydrologic regime changes.

scored separately.

or for dual classifications.

Angela Sjollema

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Step 4

Step 5

Step 6

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.

Savion - Oak Run Solar Angela Sjollema 11/10/2021

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of	YFS	NO V
•	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	Wetland should be evaluated for possible Category 3 status	Go to Question 2
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland.	NO Go to Question 3
		Go to Question 3	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	NO Solution 5
_	Onto your A Walley do by the control by the of the office (A control	Go to Question 5	NO NO
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or	Wetland is a Category 1 wetland	NO Solution 6
	no vegetation?	Go to Question 6	
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO X Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	-	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		_
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Savion - O	ak Run Solar	Rater(s): Angela Sjollema	Date: 11/10/2021
0 0	Metric 1. Wetland A	rea (size).	
max 6 pts. subtotal \$	Select one size class and assign scor >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <2) 10 to <25 acres (4 to <10.1) 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1. 0.1 to <0.3 acres (0.04 to <	0.2ha) (5 pts) ha) (4 pts)) (3 pts) 2ha) (2pts)	
8 8		ffers and surrounding land use.	
	WIDE. Buffers average 50r MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. Buffers average VERY LOW. 2nd growth or LOW. Old field (>10 years) MODERATELY HIGH. Res	Select only one and assign score. Do not double check. In (164ft) or more around wetland perimeter (7) 25m to <50m (82 to <164ft) around wetland perimeter (4) to 10m to <25m (32ft to <82ft) around wetland perimeter (1) average <10m (<32ft) around wetland perimeter (0) select one or double check and average. In older forest, prairie, savannah, wildlife area, etc. (7) shrub land, young second growth forest. (5) sidential, fenced pasture, park, conservation tillage, new faller pasture, row cropping, mining, construction. (1)	
13.5 21.5	Metric 3. Hydrology		
3	Ba. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfact Perennial surface water (late) Co. Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) ✓ <0.4m (<15.7in) (1) Co. Modifications to natural hydrologi Vecovered (7) Recovered (7) Recovering (3) Recent or no recovery (1)	to e water (3) See water (3) See or stream) (5) Ally one and assign score. (2) Coregime. Score one or double check and average.	ain (1) //lake and other human use (1) //lake and other human
12 33.5	Metric 4. Habitat Al	teration and Development.	
	4a. Substrate disturbance. Score on None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	·	
2	4c. Habitat alteration. Score one or c		
33.5 subtotal this page last revised 1 February		Check all disturbances observed mowing grazing dearcutting selective cutting woody debris removal toxic pollutants shrub/sapling removal herbaceous/aqua sedimentation dredging farming nutrient enrichma	atic bed removal

7

<u> </u>					
Site: S	avion -	Oak Run Solar	Rater(s): Angela	Sjollema	Date: 11/10/2021
su	33.5] Metric 5. Special W	<i>l</i> etlands		
0	33.5	metric of openial re	otiailasi		
max 10 pts.	subtotal	Check all that apply and score as inc Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5 Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies (Relict Wet Prairies (10) Known occurrence state/fe Significant migratory song Category 1 Wetland. See	s) wetland-unrestricted hydrologologologologologologologologologolo	angered species (10) usage (10)	
4	37.5	Metric 6. Plant con	nmunities, int	erspersion, microto	pography.
		<u> </u>	••		
max 20 pts.	subtotal	6a. Wetland Vegetation Communitie		Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	
		Aquatic bed	1	Present and either comprises sma	
		Emergent		vegetation and is of moderate q	
		1 Shrub Forest	2	significant part but is of low qua Present and either comprises sign	-
		Mudflats	2	vegetation and is of moderate q	
		Open water		part and is of high quality	dailty of comprises a small
		Other	3	Present and comprises significant	nart or more of wetland's
		6b. horizontal (plan view) Interspers	_	vegetation and is of high quality	
		Select only one.		vogotation and to or riight quality	
		High (5)	Narrative Do	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predomin	nance of nonnative or
		Moderate (3)		disturbance tolerant native spec	
		Moderately low (2)	mod	Native spp are dominant component	ent of the vegetation,
		✓ Low (1)		although nonnative and/or distu	rbance tolerant native spp
		None (0)		can also be present, and specie	es diversity moderate to
		6c. Coverage of invasive plants. Re		moderately high, but generally w	v/o presence of rare
		to Table 1 ORAM long form for list.		threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native species	
		Extensive >75% cover (-5)		and/or disturbance tolerant nativ	
		Moderate 25-75% cover (-	3)	absent, and high spp diversity a	•
		Sparse 5-25% cover (-1)	·(0)	the presence of rare, threatened	a, or endangered spp
		Nearly absent <5% cover (. ,	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	eres)
		0 Vegetated hummucks/tuss		Moderate 1 to <4ha (2.47 to 9.88	
		0 Coarse woody debris >150		High 4ha (9.88 acres) or more	
		1 Standing dead >25cm (10i		,	
		Amphibian breeding pools		raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if r of marginal quality	more common
			2	Present in moderate amounts, bu quality or in small amounts of hi	
1	Ī		3	Present in moderate or greater ar	
37.5				and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Savion - Oak Run Solar Angela Sjollema 11/10/2021

		circle	
		answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
ū	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	13.5	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	37.5	Category based on score breakpoints Category 2

Complete Wetland Categorization Worksheet.

Angela Sjollema

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	Wetland is categorized as a Category 3 wetland	NO X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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	Wetland is categorized as a Category 1 wetland	NO X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category					
Choose one	Category 1	Category 2	Category 3		
Category 2		$\overline{}$			

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization			
Vancian 5 0	Background Information			
Version 5.0	Scoring Boundary Worksheet			
	Narrative Rating	Ohio EPA, Division of Surface Water		
	Field Form Quantitative Rating	Final: February 1, 2001		
	ORAM Summary Worksheet			
	Wetland Categorization Worksheet			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

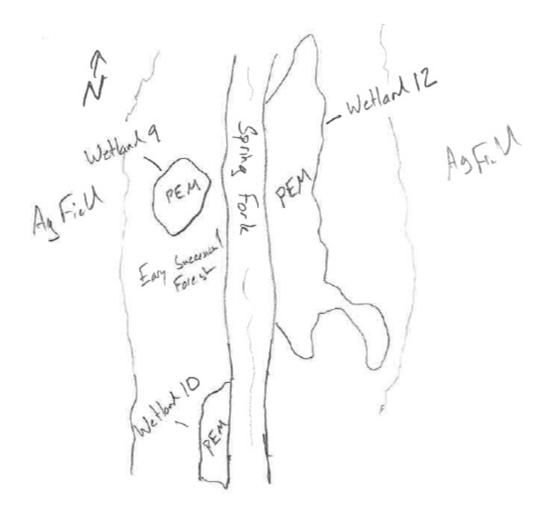
Name: **TYLER GILLETTE** Date: 5/2/2022 Affiliation: Stantec Address: 1500 Lake Shore Drive, Suit 100, Columbus, Oh43204 Phone Number: 614-210-2000 e-mail address: tyler.gillette@stantec.com Name of Wetland: Wetland 9 Vegetation Communit(ies): HGM Class(es): Floodplain Location of Wetland: include man, address, north arrow, landmarks, distances, roads, etc. Lat/Long or UTM Coordinate 39.996904, -83.398471 USGS Quad Name London, OH Madison Township Monroe Section and Subsection N/A Hydrologic Unit Code 050600012004 Site Visit 3/28/2022 National Wetland Inventory Map Yes Ohio Wetland Inventory Map No Soil Survey Madison County Soil Survey

Delineation report/map Delineation report: Figure 4

Name of Wetland: Wetland 9

Wetland Size (acres, hectares): 0.02 ac.

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score: 44

Category: 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

OAK RUN SOLAR

TYLER GILLETTE

5/2/2022

Steps in properly establishing scoring boundaries
Step 1 Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.

Otep 1	proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		X
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	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.

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO So to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Solution 8 Solution
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead spags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Complete Quantitative

Rating

Montgomery, Van Wert etc.).

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: OAK RUN SOLAR		N SOLAR	Rater(s):TYLER GILLETTE	Date: 5/2/2022
0	0	Metric 1. Wetland A	Area (size).	
max 6 pts.	subtotal	Select one size class and assign scc	s) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)	
7	7	Metric 2. Upland bu	uffers and surrounding land use.	,
max 14 pts.	subtotal	WIDE. Buffers average 50 ✓ MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years MODERATELY HIGH. Re	Select only one and assign score. Do not double check. Om (164ft) or more around wetland perimeter (7) to 25m to <50m (82 to <164ft) around wetland perimeter (4) to e 25m to <25m (32ft to <82ft) around wetland perimeter (1) average <10m (<32ft) around wetland perimeter (0) to e. Select one or double check and average. Or older forest, prairie, savannah, wildlife area, etc. (7) s), shrub land, young second growth forest. (5) sesidential, fenced pasture, park, conservation tillage, new fall uppen pasture, row cropping, mining, construction. (1)	
24	31	Metric 3. Hydrology	y.	
max 30 pts.	subtotal	3a. Sources of Water. Score all tha High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (la 3c. Maximum water depth. Select of 20.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) 3e. Modifications to natural hydrology None or none apparent (12.4 Recovered (7) Recovering (3) Recent or no recovery (1)	ace water (3) ake or stream) (5) alke or stream) (5) 3d. Duration inundation/sate of semi-to perman Regularly inundation (5) alke or stream) (5) 3d. Duration inundation/sate of semi-to perman Regularly inundation (5) alke or stream) (7) alke or stream) (7) alke or stream) (8) alke or stream) (9) alke or stream)	ain (1) //ake and other human use (1) //ake and other human use (1) //apland (e.g. forest), complex (1) or upland corridor (1) turation. Score one or dbl check // interest in undated/saturated (4) // ated/saturated (3) // dated (2) // rated in upper 30cm (12in) (1) // instormwater)
		Recent of no recovery (1)	weir dredging stormwater input other	
14	45	Metric 4. Habitat A	Iteration and Development.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score of ✓ None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select on Excellent (7) Very good (6) Good (5)		
			Check all disturbances observed mowing shrub/sapling rer grazing herbaceous/aqua clearcutting Check all disturbances observed shrub/sapling rer herbaceous/aqua sedimentation	
	45 ubtotal this pa	•	selective cutting woody debris removal toxic pollutants dredging farming nutrient enrichment	ent
last revised	ı ı ı c nıda	ı y 200 i jjili		

Site: OAK	RUN SOLAR	Rater(s): TYLER	GILLETTE	Date: 5/2/2022
45 subtotal 0 45	Metric 5. Special \	Vetlands.		
	total Check all that apply and score as it	adiaatad		
max to pis. Sub	Bog (10) Fen (10) Old growth forest (10) Mature forested wetland Lake Erie coastal/tributal Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/ Significant migratory son Category 1 Wetland. Se	(5) y wetland-unrestricted hydrol y wetland-restricted hydrol (Oak Openings) (10) federal threatened or enda gbird/water fowl habitat or e Question 1 Qualitative R:	angered species (10) usage (10) ating (-10)	
-1 44	Metric 6. Plant co	mmunities, inte	erspersion, microto	pography.
	 total	ios Vogotation	Community Cover Scale	
max 20 pts. Sub	6a. Wetland Vegetation Communit Score all present using 0 to 3 scale		Absent or comprises <0.1ha (0.24)	71 acres) contiguous area
	Aquatic bed	. <u> </u>	Present and either comprises sma	
	1 Emergent	·	vegetation and is of moderate qu	
	0 Shrub		significant part but is of low quali	
	0 Forest	2	Present and either comprises sign	
	Mudflats		vegetation and is of moderate qu	
	Open water		part and is of high quality	, ,
	Other	3	Present and comprises significant	part. or more. of wetland's
	6b. horizontal (plan view) Interspe		vegetation and is of high quality	,
	Select only one.		regetation and to or mg. quality	
	High (5)	Narrative Do	escription of Vegetation Quality	
	Moderately high(4)	low	Low spp diversity and/or predomin	ance of nonnative or
	Moderate (3)		disturbance tolerant native speci	
	Moderately low (2)	mod	Native spp are dominant compone	
	✓ Low (1)		although nonnative and/or distur	bance tolerant native spp
	None (0)		can also be present, and species	s diversity moderate to
	6c. Coverage of invasive plants. F	Refer	moderately high, but generally w	/o presence of rare
	to Table 1 ORAM long form for list.	Add	threatened or endangered spp	
	or deduct points for coverage	high	A predominance of native species,	, with nonnative spp
	Extensive >75% cover (-	5)	and/or disturbance tolerant nativ	e spp absent or virtually
	✓ Moderate 25-75% cover	(-3)	absent, and high spp diversity ar	าd often, but not always,
	Sparse 5-25% cover (-1)		the presence of rare, threatened	, or endangered spp
	Nearly absent <5% cove	` '		
	Absent (1)	Mudflat and	Open Water Class Quality	
	6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
	Score all present using 0 to 3 scale		Low 0.1 to <1ha (0.247 to 2.47 acr	
	0 Vegetated hummucks/tu		Moderate 1 to <4ha (2.47 to 9.88	acres)
	0 Coarse woody debris >1		High 4ha (9.88 acres) or more	
	O Standing dead >25cm (1	,	raphy Cover Scale	
	0 Amphibian breeding poo	0 wiici otopog	Absent	
		1	Present very small amounts or if m	nore common
		1	of marginal quality	.5.5 5511111011
		2	Present in moderate amounts, but	not of highest
		-	quality or in small amounts of hig	
		3	Present in moderate or greater am	
		•	and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

		circle answer or insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
-	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	24	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	44	Category based on score breakpoints Category 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	Wetland is categorized as a Category 3 wetland	NO X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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	Wetland is categorized as a Category 1 wetland	NO X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	Category 2	Category 3	
Category 2				

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization			
Vancian 5 0	Background Information			
Version 5.0	Scoring Boundary Worksheet			
	Narrative Rating	Ohio EPA, Division of Surface Water		
	Field Form Quantitative Rating	Final: February 1, 2001		
	ORAM Summary Worksheet			
	Wetland Categorization Worksheet			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: TYLER GILLETTE

Date: 5/2/2022

Affiliation:

Stantec

Address:

1500 Lake Shore Drive, Suite 100, Columbus, Oh 43204

Phone Number:

614-210-2000

e-mail address:

tyler.gillette@stantec.com

Name of Wetland: Wetland 10

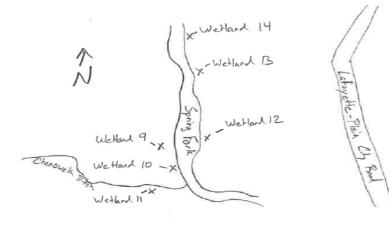
Vegetation Communit(ies):

PEM

HGM Class(es):

Floodplain

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate 39.995852, -83.398387		
USGS Quad Name London, OH		
County Madison		
Township Monroe		
Section and Subsection N./A		
Hydrologic Unit Code 050600012004		
Site Visit 4/6/2022		
National Wetland Inventory Map Yes		
Ohio Wetland Inventory Map No		
Soil Survey Madison County Soil Survey		
Delineation report/map Delineation Report; Figure 4		

TYLER GILLETTE OAK RUN SOLAR 5/2/2022 Name of Wetland: Wetland 10 Wetland Size (acres, hectares): 0.17 ac. Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. As Field As Comments, Narrative Discussion, Justification of Category Changes:

Category: 2

Final score: 47

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.

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		X
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		X
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	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.

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO So to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO So to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO So to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO So to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO So to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Solution 8 Solution
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead spags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Complete Quantitative

Rating

Montgomery, Van Wert etc.).

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: OAK RUN SOLAR		Rater(s):TYLER GILLETTE		Date: 5/2/2022
1 1	Metric 1. Wetland A	rea (size).		
max 6 pts. subtotal	Select one size class and assign sco 50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1. ✓ 0.1 to <0.3 acres (0.04ha) (0 pts)) (0.2ha) (5 pts) ha) (4 pts) ı) (3 pts) (2ha) (2pts) (0.12ha) (1 pt)		
7 8	Metric 2. Upland bu		ng land use.	
max 14 pts. subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth o ✓ LOW. Old field (>10 years MODERATELY HIGH. Re	m (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around e 10m to <25m (32ft to <82ft) around average <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallo	ow field. (3)
23 31	Metric 3. Hydrology		` '	
max 30 pts. subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (la 3c. Maximum water depth. Select or >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) V <0.4m (<15.7in) (1) 3e. Modifications to natural hydrolog	ce water (3) ke or stream) (5) 3d. ally one and assign score.	Part of wetland/u Part of riparian or Duration inundation/sat Semi- to permane Regularly inunda Seasonally inund V Seasonally satura	ain (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3)
	✓ None or none apparent (12 Recovered (7) Recovering (3) Recent or no recovery (1)	ditch tile dike weir stormwater input	point source (nor filling/grading road bed/RR trac dredging other	
14 45	Metric 4. Habitat Al		pment.	
max 20 pts. subtotal	 4a. Substrate disturbance. Score on ✓ None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select onl Excellent (7) Very good (6) Good (5) ✓ Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 			
	4c. Habitat alteration. Score one or None or none apparent (9)			
45 subtotal this pa	Recovered (6) Recovering (3) Recent or no recovery (1)	mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling ren herbaceous/aqua sedimentation dredging farming nutrient enrichme	atic bed removal

Site: OAK RUN SOLAR		Rater(s): TYLER GILLETTE		Date: 5/2/2022	
SL	45 ubtotal first pa				
0	45	Wettic 3. Special W	ctialius.		
max 10 pts.	subtotal	Check all that apply and score as indi Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary v Lake Plain Sand Prairies (0 Relict Wet Prairies (10) Known occurrence state/fed Significant migratory songb Category 1 Wetland. See 0	wetland-unrestricted hydro wetland-restricted hydrolo oak Openings) (10) deral threatened or endan ird/water fowl habitat or u Question 1 Qualitative Rat	gy (5) gered species (10) sage (10) ing (-10)	
2	47	Metric 6. Plant com	munities, inte	rspersion, microto	pography.
max 20 pts.	subtotal	J 6a. Wetland Vegetation Communities	. Vegetation C	ommunity Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	
		Aquatic bed	1	Present and either comprises sma	
		1 Emergent		vegetation and is of moderate qu	
		0 Shrub		significant part but is of low qual	
		0 Forest	2	Present and either comprises sign	
		Mudflats		vegetation and is of moderate qu	uality or comprises a small
		Open water		part and is of high quality	
		Other	_ 3	Present and comprises significant	part, or more, of wetland's
		6b. horizontal (plan view) Interspersion	on	vegetation and is of high quality	
		Select only one.	Norretive Dec	porintian of Vagatatian Quality	
		High (5)		scription of Vegetation Quality	anno of nonnotive or
		Moderately high(4)	low	Low spp diversity and/or predomin	
		Moderate (3)	mod	disturbance tolerant native speci	
		✓ Moderately low (2)	mod	Native spp are dominant compone although nonnative and/or distur	_
		Low (1) None (0)		can also be present, and species	
		6c. Coverage of invasive plants. Ref	or	moderately high, but generally w	-
		to Table 1 ORAM long form for list. A		threatened or endangered spp	no presence or rare
		or deduct points for coverage	high	A predominance of native species	with nonnative snn
		Extensive >75% cover (-5)	nign	and/or disturbance tolerant nativ	
		✓ Moderate 25-75% cover (-3))	absent, and high spp diversity a	
		Sparse 5-25% cover (-1)	1	the presence of rare, threatened	_
		Nearly absent <5% cover (0))	p	, o. oago.ou opp
		Absent (1)	,	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	res)
		0 Vegetated hummucks/tussu	ıcks 2	Moderate 1 to <4ha (2.47 to 9.88	acres)
		1 Coarse woody debris >15cr		High 4ha (9.88 acres) or more	
		1 Standing dead >25cm (10in		· · · · · · · · · · · · · · · · · · ·	
		Amphibian breeding pools	Microtopogra	phy Cover Scale	
			0	Absent	
			1	Present very small amounts or if n	nore common
				of marginal quality	
			2	Present in moderate amounts, but quality or in small amounts of high	
			3	Present in moderate or greater am	
				and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

		circle answer or insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	23	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	47	Category based on score breakpoints Category 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	Wetland is categorized as a Category 3 wetland	NO X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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	Wetland is categorized as a Category 1 wetland	NO X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	Category 2	Category 3	
Category 2		$\overline{}$		

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization			
Vancian 5 0	Background Information			
Version 5.0	Scoring Boundary Worksheet			
	Narrative Rating	Ohio EPA, Division of Surface Water		
	Field Form Quantitative Rating	Final: February 1, 2001		
	ORAM Summary Worksheet			
	Wetland Categorization Worksheet			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: TYLER GILLETTE

Date: 5/2/2022

Affiliation:

Stantec

Address:

1500 Lake Shore Drive, Suite 100, Columbus, OH 43204

Phone Number:

614-210-2000

e-mail address:

tyler.gillette@stantec.com

Name of Wetland: Wetland 11

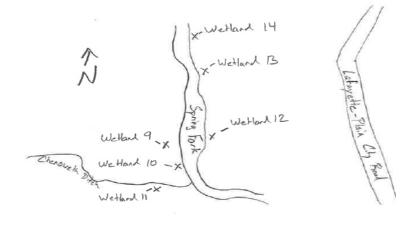
Vegetation Communit(ies):

PEM

HGM Class(es):

Floodplain

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate 39.994258, -83.398999	
USGS Quad Name London, OH	
County Madison	
Township Monroew	
Section and Subsection N/A	
Hydrologic Unit Code 050600012004	
Site Visit 4/6/2022	
National Wetland Inventory Map Yes	
Ohio Wetland Inventory Map No	
Soil Survey Madison County Soil Survey	
Delineation report/map Delineation Report; Figure 4	

TYLER GILLETTE 5/2/2022 Name of Wetland: Wetland 11 Wetland Size (acres, hectares): 0.29 ac. Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Comments, Narrative Discussion, Justification of Category Changes:

Final score: 35

Category: 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		X
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	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.

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO So to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Solution 8 Solution
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead spags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Complete Quantitative

Rating

Montgomery, Van Wert etc.).

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: OAK RUN SOLAR		Rater(s):TYLER GILLETTE	Date: 5/2/2022
1 1	Metric 1. Wetland A	Area (size).	
max 6 pts. subtotal	Select one size class and assign scc 50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to 10 to <25 acres (4 to <10.) 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1ha) √ 0.1 to <0.3 acres (0.04 to <0.1 acres (0.04ha) (0 pts)</td <td>s) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)</td> <td></td>	s) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)	
7 8	'	iffers and surrounding land use.	
max 14 pts. subtotal	WIDE. Buffers average 50 ✓ MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years ✓ MODERATELY HIGH. Re	Select only one and assign score. Do not double check. Om (164ft) or more around wetland perimeter (7) to 25m to <50m (82 to <164ft) around wetland perimeter (4) upe 10m to <25m (32ft to <82ft) around wetland perimeter (1) average <10m (<32ft) around wetland perimeter (0) to 25m (32ft) around wetland perimeter (1) average <10m (32ft) around wetland perimeter (1) average	
16 24	Metric 3. Hydrology	/ .	
max 30 pts. subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (late of the seasonal surface water (ace water (3) ake or stream) (5) nly one and assign score.) (2) y (2) y (2) y (3) 100 year floodpla Between stream Part of wetland/u Part of riparian o Semi- to perman Regularly inunda Seasonally inunda Seasonally satur gic regime. Score one or double check and average.	ain (1) //ake and other human use (1) //ake and other human use (1) //ake and other human use (1) //apland (e.g. forest), complex (1) //ar upland corridor (1) //arturation. Score one or dbl check
	1	weir dredging other other	
12 36	Metric 4. Habitat A	Iteration and Development.	
max 20 pts. subtotal	4a. Substrate disturbance. Score of None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select on Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)		
	4c. Habitat alteration. Score one or		
36 subtotal this pa	•	Crieck all disturbances observed	atic bed removal

Site: 0	AK RUI	N SOLAR	Rater(s): TYLER	GILLETTE	Date: 5/2/2022
	36			J	
su	btotal first pa	l ge			
0	36	Metric 5. Special W	etlands.		
max 10 pts.	subtotal	Check all that apply and score as income Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies (10) Known occurrence state/fe Significant migratory songle Category 1 Wetland. See	s) wetland-unrestricted hyd wetland-restricted hydrol Oak Openings) (10) ederal threatened or enda bird/water fowl habitat or	ogy (5) Ingered species (10) usage (10)	
-1	35	Metric 6. Plant com	nmunities, into	erspersion, microto	pography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communitie	s. Vegetation	Community Cover Scale	
		Score all present using 0 to 3 scale. Aquatic bed Emergent	<u>0</u> 1	Absent or comprises <0.1ha (0.24 Present and either comprises small vegetation and is of moderate quite in the comprise of th	all part of wetland's uality, or comprises a
		Shrub Forest Mudflats Open water	2	significant part but is of low qua Present and either comprises sign vegetation and is of moderate q part and is of high quality	nificant part of wetland's
		Other	3	Present and comprises significant	t part or more of wetland's
		6b. horizontal (plan view) Interspers		vegetation and is of high quality	
		Select only one.	-	, , , , ,	
		High (5)	Narrative De	escription of Vegetation Quality	
		Moderately high(4) Moderate (3)	low	Low spp diversity and/or predomi disturbance tolerant native spec	
		Moderately low (2) ✓ Low (1)	mod	Native spp are dominant compone although nonnative and/or distu	_
		None (0)		can also be present, and specie	-
		6c. Coverage of invasive plants. Re to Table 1 ORAM long form for list.		moderately high, but generally threatened or endangered spp	w/o presence of rare
		or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-		A predominance of native species and/or disturbance tolerant native absent, and high spp diversity a	ve spp absent or virtually
		Sparse 5-25% cover (-1)	<u></u>	the presence of rare, threatened	-
		Nearly absent <5% cover (,		
		Absent (1)		Open Water Class Quality	
		6d. Microtopography. Score all present using 0 to 3 scale.	0	Absent <0.1ha (0.247 acres) Low 0.1 to <1ha (0.247 to 2.47 acres)	eroe)
		0 Vegetated hummucks/tuss		Moderate 1 to <4ha (2.47 to 9.88	
		0 Coarse woody debris >150		High 4ha (9.88 acres) or more	0 40163)
		0 Standing dead >25cm (10i	· · ·	Trigit ma (e.ee aeree) et mere	
		0 Amphibian breeding pools		raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if r	more common
			2	Present in moderate amounts, bu quality or in small amounts of hi	ghest quality
			3	Present in moderate or greater ar and of highest quality	mounts
35				, , ,	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

		circle answer or insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	35	Category based on score breakpoints Category 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	Wetland is categorized as a Category 3 wetland	NO X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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	Wetland is categorized as a Category 1 wetland	NO X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	Category 2	Category 3	
Category 2		$\overline{}$		

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization		
Vancian 5 0	Background Information		
Version 5.0	Scoring Boundary Worksheet		
	Narrative Rating	Ohio EPA, Division of Surface Water	
	Field Form Quantitative Rating	Final: February 1, 2001	
	ORAM Summary Worksheet		
	Wetland Categorization Worksheet		

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: TYLER GILLETTE

Date: 5/2022

Affiliation:

Stantec

Address:

1500 Lake Shore Drive, Suite 100, Columbus, OH 43204

Phone Number:

614-210-2000

e-mail address:

tyler.gillette@stantec.com

Name of Wetland: Wetland 12

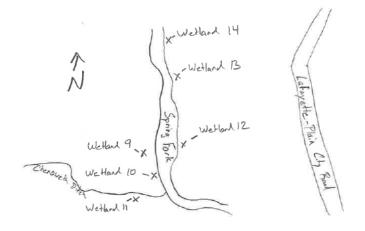
Vegetation Communit(ies):

PFM

HGM Class(es):

Floodplain

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate 39.996789, -83.397989	
USGS Quad Name London, OH	
County Madison	
Township Monroe	
Section and Subsection N/A	
Hydrologic Unit Code 050600012004	
Site Visit 4/6/2022	
National Wetland Inventory Map Yes	
Ohio Wetland Inventory Map No	
Soil Survey Madison County Soil Survey	
Delineation report/map Delineation Report; Figure 4	

K RUN SOLAR	TYLER GILLETTE	5/2022
Name of Wetland: Wetland 12		
Wetland Size (acres, hectares): 0.45	5.20	
	ship with other surface waters, vegetation zones, etc.	
Az Field Eary	Spring Fork PEN Sugar PEN Sugar Pen Sugar Pork	ASFER

Category: 2

Final score: 48

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.

TYLER GILLETTE OAK RUN SOLAR 5/2022 Steps in properly establishing scoring boundaries done? not applicable Step 1 Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc. Step 2 Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and humaninduced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland. Step 3 Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary. Step 4 Determine if artificial boundaries, such as property lines, state lines,

roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas

In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be

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,

where the hydrologic regime changes.

scored separately.

or for dual classifications.

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Step 5

Step 6

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.

OAK RUN SOLAR TYLER GILLETTE 5/2022

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO So to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Solution 8 Solution
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead spags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: OAK RUI	N SOLAR	Rater(s): TYLER GILLETTE	Date: 5/2022
2 2	Metric 1. Wetland A	Area (size).	
max 6 pts. subtotal	Select one size class and assign scc >50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to 10 to <25 acres (4 to <10. 3 to <10 acres (1.2 to <4h ✓ 0.3 to <3 acres (0.12 to <1 0.1 to <0.3 acres (0.04 to <0.1 acres (0.04ha) (0 pts)</td <td>s) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) I.2ha) (2pts) <0.12ha) (1 pt)</td> <td></td>	s) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) I.2ha) (2pts) <0.12ha) (1 pt)	
7 9	Metric 2. Upland bu	uffers and surrounding land use	•
max 14 pts. subtotal	WIDE. Buffers average 50 ✓ MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years MODERATELY HIGH. Re	Select only one and assign score. Do not double check. Om (164ft) or more around wetland perimeter (7) to 25m to <50m (82 to <164ft) around wetland perimeter (4) to e 25m (32ft to <82ft) around wetland perimeter (1) average <10m (<32ft) around wetland perimeter (0) to 25e. Select one or double check and average. Or older forest, prairie, savannah, wildlife area, etc. (7) to 3e, shrub land, young second growth forest. (5) to 25esidential, fenced pasture, park, conservation tillage, new fall open pasture, row cropping, mining, construction. (1)	
23 32	Metric 3. Hydrology	y.	
max 30 pts. subtotal	3a. Sources of Water. Score all tha High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (last perennial	ace water (3) ake or stream) (5) also only one and assign score. also regime. Score one or double check and average. Check all disturbances observed also disch tile dike 100 year floodpl Between stream Part of wetland/ Part of riparian of part of riparian of part of riparian of part of premain Regularly inunds Seasonally inunds Seasonally inunds Seasonally saturated in point source (not filling/grading road bed/RR training)	lain (1) //lake and other human use (1) upland (e.g. forest), complex (1) or upland corridor (1) uturation. Score one or dbl check nently inundated/saturated (4) ated/saturated (3) dated (2) rated in upper 30cm (12in) (1)
	1	weir dredging stormwater input other	
13 45		Iteration and Development.	
max 20 pts. subtotal	4a. Substrate disturbance. Score of Vone or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select on Excellent (7) Very good (6) Good (5) Moderately good (4) Very fair (3) Poor to fair (2) Poor (1)		
	4c. Habitat alteration. Score one or None or none apparent (9)		
45 subtotal this pa	Recovered (6) Recovering (3) Recent or no recovery (1)	✓ mowing shrub/sapling re	latic bed removal

Sito: C	MV DIII	N SOLAR	Poto	*/c). TVI ED	CULETTE	Date: 5/2022
Site.	AN NU	N SOLAR	Rate	r(s): TYLER	GILLETTE	Date. 3/2022
SL	45 obtotal first pa	nge				
0	45	Metric	5. Special Wetla	nds.		
max 10 pts.	subtotal	B F F C C M M L L L L K K S C C C C C C C C C C C C C C C C C	nat apply and score as indicated. og (10) en (10) old growth forest (10) flature forested wetland (5) ake Erie coastal/tributary wetland ake Erie coastal/tributary wetland ake Plain Sand Prairies (Oak Ope celict Wet Prairies (10) flown occurrence state/federal the ignificant migratory songbird/wate category 1 Wetland. See Question	-restricted hydro enings) (10) reatened or enda er fowl habitat or n 1 Qualitative R	angered species (10) usage (10) ating (-10)	
3	48	Metric	: 6. Plant commur	nities, int	erspersion, microto	pography.
max 20 pts.	subtotal	6a. Wetlan	d Vegetation Communities.	Vegetation	Community Cover Scale	
		Score all pr	esent using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	
			quatic bed	1	Present and either comprises small	
			mergent		vegetation and is of moderate q	
			hrub		significant part but is of low qua	•
			orest	2	Present and either comprises sign	
		-	ludflats		vegetation and is of moderate q	uality or comprises a small
)pen water		part and is of high quality	want annana af watlandla
			other	3	Present and comprises significant	
		Select only	tal (plan view) Interspersion.		vegetation and is of high quality	
			ligh (5)	Narrative D	escription of Vegetation Quality	
			loderately high(4)	low	Low spp diversity and/or predoming	nance of nonnative or
			loderate (3)	1011	disturbance tolerant native spec	
			loderately low (2)	mod	Native spp are dominant compone	
		-	ow (1)		although nonnative and/or distu	_
			lone (0)		can also be present, and specie	
			ge of invasive plants. Refer		moderately high, but generally v	v/o presence of rare
		to Table 1 C	DRAM long form for list. Add		threatened or endangered spp	
		or deduct p	oints for coverage	high	A predominance of native species	s, with nonnative spp
			xtensive >75% cover (-5)		and/or disturbance tolerant nativ	
			loderate 25-75% cover (-3)		absent, and high spp diversity a	-
			parse 5-25% cover (-1)		the presence of rare, threatened	d, or endangered spp
			learly absent <5% cover (0)			
			bsent (1)		Open Water Class Quality	
		6d. Microto		0	Absent <0.1ha (0.247 acres)	
			esent using 0 to 3 scale. 'egetated hummucks/tussucks	1	Low 0.1 to <1ha (0.247 to 2.47 ac	
			coarse woody debris >15cm (6in)	3	Moderate 1 to <4ha (2.47 to 9.88 High 4ha (9.88 acres) or more	acres)
			tanding dead >25cm (10in) dbh		riigii 4iia (9.00 acres) oi iiiore	
			mphibian breeding pools	Microtopog	raphy Cover Scale	
		0 A	inpristall brooding pools	0	Absent	
				1	Present very small amounts or if r	more common
				•	of marginal quality	= ==:::: = ::
				2	Present in moderate amounts, bu	t not of highest
					quality or in small amounts of hi	
				3	Present in moderate or greater ar	<u> </u>
					and of highest quality	
48						

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

OAK RUN SOLAR TYLER GILLETTE 5/2022

		circle answer or insert	Result
		score	Result
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
· ·	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	23	
	Metric 4. Habitat	13	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	48	Category based on score breakpoints Category 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	Wetland is categorized as a Category 3 wetland	NO X	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 overcategorized by the ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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	Wetland is categorized as a Category 1 wetland	NO X	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	
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Final Category				
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Category 2				

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Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: TYLER GILLETTE

Date: 5/2/022

Affiliation:

Stantec

Address:

1500 Lake Shore Drive, Suite 100, Columbus, OH 43204

Phone Number:

614-210-2000

e-mail address:

tyler.gillette@stantec.com

Name of Wetland: Wetland 13

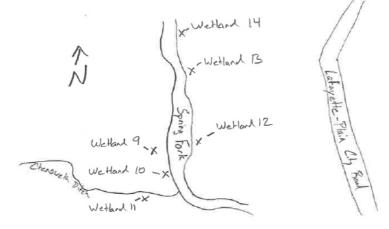
Vegetation Communit(ies):

PFM

HGM Class(es):

Floodplain

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate 39.9987, -83.398038			
USGS Quad Name London, OH			
County Madison			
Township Monroe			
Section and Subsection N/A			
Hydrologic Unit Code 050600012004			
Site Visit 4/6/2022			
National Wetland Inventory Map Yes			
Ohio Wetland Inventory Map			
Soil Survey Madison County Soil Survey			
Delineation report/map Delineation Report; Figure 4			

TYLER GILLETTE OAK RUN SOLAR 5/2/022 Name of Wetland: Wetland 13 Wetland Size (acres, hectares): 0.62 ac. Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Comments, Narrative Discussion, Justification of Category Changes:

Category: 2 Final score: 48

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.

TYLER GILLETTE OAK RUN SOLAR 5/2/022 Steps in properly establishing scoring boundaries done? not applicable Step 1 Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc. Step 2 Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and humaninduced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland. Step 3 Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary. Step 4 Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be

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,

Step 5

Step 6

scored separately.

or for dual classifications.

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.

OAK RUN SOLAR TYLER GILLETTE 5/2/022

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Solution 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: O	AK RUN	SOLAR	Rater(s):TYLER GILLETTE	Date: 5/2/022
2	2	Metric 1. Wetland A	area (size).	
max 6 pts.	subtotal	Select one size class and assign sco >50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <2.10 to <2.5 acres (4 to <10.1 do <2.5 acres (4 to <10.1 do <2.5 acres (4 to <10.1 do <1.2 to <4.0 do <1.2 to <1.0 do <1.2 to <1.0 do <1.0) 20.2ha) (5 pts) Iha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)	
7	9	Metric 2. Upland bu	iffers and surrounding land use	· <u>-</u>
max 14 pts.	subtotal	WIDE. Buffers average 50 ✓ MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years MODERATELY HIGH. Re	Select only one and assign score. Do not double check. Im (164ft) or more around wetland perimeter (7) a 25m to <50m (82 to <164ft) around wetland perimeter (4) le 10m to <25m (32ft to <82ft) around wetland perimeter (1 average <10m (<32ft) around wetland perimeter (0) a. Select one or double check and average. In older forest, prairie, savannah, wildlife area, etc. (7) ly, shrub land, young second growth forest. (5) sidential, fenced pasture, park, conservation tillage, new fapen pasture, row cropping, mining, construction. (1)	
23	32	Metric 3. Hydrology	/.	
max 30 pts.	subtotal		ace water (3) like or stream) (5) nly one and assign score. 100 year floodp Part of wetland. ✓ Part of riparian Semi- to perma Regularly inunc Seasonally inur ✓ Seasonally saturation.	plain (1) n/lake and other human use (1) n/lake and other human use (1) n/upland (e.g. forest), complex (1) or upland corridor (1) aturation. Score one or dbl check. nently inundated/saturated (4) lated/saturated (3)
		✓ None or none apparent (12 Recovered (7) Recovering (3) Recent or no recovery (1)	Check all disturbances observed ditch tile dike weir stormwater input Check all disturbances observed point source (not filling/grading filling/grading road bed/RR traditional disturbance) point source (not filling/grading filling/grading other	
14	46	Metric 4. Habitat Al	teration and Development.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score or None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select onl Excellent (7) Very good (6) Good (5) Moderately good (4)		
	46		Check all disturbances observed shrub/sapling re	uatic bed removal
last revised	ı ı rebiua	y 2001 jjiii		

Site: C	ΔK RIII	N SOL AL	Pate	er(s): TYLER	CILLETTE	Date: 5/2/022
Jite.	AITIO	IN OOLAI	Nate	i(S). ITLEN	GILLETTE	Date. 0/2/022
		1				
	46					
SU	btotal first pa	7				
0	46	Metr	ic 5. Special Wetla	inds.		
max 10 pts.	subtotal	Check all	that apply and score as indicated.			
			Bog (10)			
			Fen (10)			
			Old growth forest (10)			
			Mature forested wetland (5)	d uprostricted by	dralogy (10)	
			Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland	-		
			Lake Plain Sand Prairies (Oak Op	•	logy (3)	
			Relict Wet Prairies (10)	ormigo, (10)		
			Known occurrence state/federal th	reatened or enda	angered species (10)	
			Significant migratory songbird/wat	ter fowl habitat or	usage (10)	
		_	Category 1 Wetland. See Question	on 1 Qualitative R	ating (-10)	
		Metr	ic 6 Plant commu	nities int	erspersion, microto	pography
2	48	I WOU				pograpity
max 20 pts.	subtotal	_ 6a_ Wetl	and Vegetation Communities.	Vegetation	Community Cover Scale	
			present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	171 acres) contiguous area
			Aquatic bed	1	Present and either comprises small	
		1	Emergent		vegetation and is of moderate q	
		0	Shrub		significant part but is of low qua	lity
		0	Forest	2	Present and either comprises sign	
			Mudflats		vegetation and is of moderate q	uality or comprises a small
			Open water		part and is of high quality	
		6h horiz	Other	3	Present and comprises significant	
		Select on	ontal (plan view) Interspersion.		vegetation and is of high quality	
		OCICCI OI	High (5)	Narrative D	escription of Vegetation Quality	
			Moderately high(4)	low	Low spp diversity and/or predomin	nance of nonnative or
			Moderate (3)		disturbance tolerant native spec	
		✓	Moderately low (2)	mod	Native spp are dominant component	ent of the vegetation,
			Low (1)		although nonnative and/or distu	
			None (0)		can also be present, and specie	•
			erage of invasive plants. Refer		moderately high, but generally w	v/o presence of rare
			1 ORAM long form for list. Add points for coverage	high	threatened or endangered spp A predominance of native species	with poppative can
		or deduci	Extensive >75% cover (-5)	riigii	and/or disturbance tolerant nativ	
		1	Moderate 25-75% cover (-3)		absent, and high spp diversity a	
		-	Sparse 5-25% cover (-1)		the presence of rare, threatened	-
			Nearly absent <5% cover (0)		•	
			Absent (1)	Mudflat and	l Open Water Class Quality	
			otopography.	0	Absent <0.1ha (0.247 acres)	
		Score all	present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	
		0	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	acres)
		1	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
		1	Standing dead >25cm (10in) dbh Amphibian breeding pools	Microtopog	raphy Cover Scale	
		0	1, and invali preeding hoop	0	Absent	
				1	Present very small amounts or if r	nore common
				-	of marginal quality	
				2	Present in moderate amounts, bu	
					quality or in small amounts of hi	<u> </u>
	ī			3	Present in moderate or greater ar	nounts
40					and of highest quality	
48						

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

OAK RUN SOLAR TYLER GILLETTE 5/2/022

		circle answer or insert	Result
		score	1100411
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
Ü	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	23	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	48	Category based on score breakpoints Category 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	Wetland is categorized as a Category 3 wetland	NO X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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	Wetland is categorized as a Category 1 wetland	NO X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category					
Choose one	Category 1	Category 2	Category 3		
Category 2		$\overline{}$			

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization		
Vancian 5 0	Background Information		
Version 5.0	Scoring Boundary Worksheet		
	Narrative Rating	Ohio EPA, Division of Surface Water	
	Field Form Quantitative Rating	Final: February 1, 2001	
	ORAM Summary Worksheet		
	Wetland Categorization Worksheet		

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

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Date:

5/2/2022

Affiliation:

Stantec

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1500 Lake Shore Drive, Suite 100, Columbus, OH 43204

Phone Number:

614-210-2000

e-mail address:

tyler.gillette@stantec.com

Name of Wetland: Wetland 14

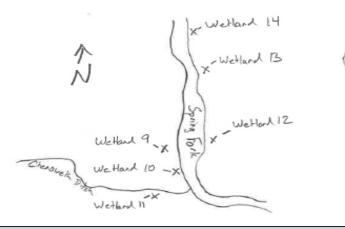
Vegetation Communit(ies):

PEM

HGM Class(es):

Floodplain

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate 39.999789, -83.398631	
USGS Quad Name London, OH	
County Madison	
Township Monroe	
Section and Subsection N/A	
Hydrologic Unit Code 050600012004	
Site Visit 4/6/2022	
National Wetland Inventory Map Yes	
Ohio Wetland Inventory Map No	
Soil Survey Madison County Soil Survey	
Delineation report/map Delineation Report; Figure 4	

RUN SOLAR Name of Wetland:	TYLER GILLETTE	5/2/2022
	Wetland 14	
	s, hectares): 0.14 ac. rth arrow, relationship with other surface waters, vegetation zones, etc.	
	ve Discussion, Justification of Category Changes:	

Final score: 50 Category: 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		X
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	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.

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO So to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO So to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO So to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO So to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO So to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Solution 8 Solution
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead spags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Complete Quantitative

Rating

Montgomery, Van Wert etc.).

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: OAK RUI	N SOLAR	Rater(s): TYLER GILLETT	E	Date: 5/2/2022
1 1	Metric 1. Wetland A	rea (size).		
max 6 pts. subtotal	Select one size class and assign sco 50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1. ✓ 0.1 to <0.3 acres (0.04ha) (0 pts)) (0.2ha) (5 pts) ha) (4 pts) ı) (3 pts) (2ha) (2pts) (0.12ha) (1 pt)		
7 8	Metric 2. Upland bu		ng land use.	
max 14 pts. subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth o ✓ LOW. Old field (>10 years MODERATELY HIGH. Re	m (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around e 10m to <25m (32ft to <82ft) around average <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallo	ow field. (3)
23 31	Metric 3. Hydrology		` '	
max 30 pts. subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (la 3c. Maximum water depth. Select or >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) V <0.4m (<15.7in) (1) 3e. Modifications to natural hydrolog	ce water (3) ke or stream) (5) 3d. ally one and assign score.	Part of wetland/u Part of riparian or Duration inundation/sat Semi- to permane Regularly inunda Seasonally inund V Seasonally satura	ain (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3)
	✓ None or none apparent (12 Recovered (7) Recovering (3) Recent or no recovery (1)	ditch tile dike weir stormwater input	point source (nor filling/grading road bed/RR trac dredging other	
14 45	Metric 4. Habitat Al		pment.	
max 20 pts. subtotal	 4a. Substrate disturbance. Score on ✓ None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select onl Excellent (7) Very good (6) Good (5) ✓ Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 			
	4c. Habitat alteration. Score one or None or none apparent (9)			
45 subtotal this pa	Recovered (6) Recovering (3) Recent or no recovery (1)	mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling ren herbaceous/aqua sedimentation dredging farming nutrient enrichme	atic bed removal

Site: OAK RUN	I SOLAR	Rater(s): TYLER	GILLETTE	Date: 5/2/2022
45		(c)		,
0 45	Metric 5. Special W	etlands.		
max 10 pts. subtotal	Check all that apply and score as ind Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5 Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies (0 Relict Wet Prairies (10) Known occurrence state/fe Significant migratory songt Category 1 Wetland. See	i) wetland-unrestricted hyd wetland-restricted hydrol Oak Openings) (10) deral threatened or enda bird/water fowl habitat or	ngered species (10) usage (10)	
5 50	Metric 6. Plant com	nmunities, into	erspersion, microto	ppography.
max 20 pts. subtotal	6a. Wetland Vegetation Communitie	s. Vegetation	Community Cover Scale	
	Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub	0	Absent or comprises <0.1ha (0.24) Present and either comprises sm. vegetation and is of moderate of significant part but is of low qual	all part of wetland's _l uality, or comprises a
	0 Shrub 0 Forest Mudflats Open water	2	Present and either comprises sign vegetation and is of moderate of part and is of high quality	nificant part of wetland's
	Other6b. horizontal (plan view) Interspersi Select only one.	3 on.	Present and comprises significan vegetation and is of high quality	
	High (5)	Narrative De	escription of Vegetation Quality	
	Moderately high(4) ✓ Moderate (3)	low	Low spp diversity and/or predomi disturbance tolerant native spec	
	Moderately low (2) Low (1) None (0)	mod	Native spp are dominant compon although nonnative and/or distu can also be present, and specie	rbance tolerant native spp
	6c. Coverage of invasive plants. Re to Table 1 ORAM long form for list. A	Add	moderately high, but generally threatened or endangered spp	w/o presence of rare
	or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-7) Sparse 5-25% cover (-1)	3)	A predominance of native species and/or disturbance tolerant native absent, and high spp diversity at the presence of rare, threatened	ve spp absent or virtually and often, but not always,
	Nearly absent <5% cover (,	0 111 0 111	
	Absent (1) 6d. Microtopography.	Mudifiat and	Open Water Class Quality Absent <0.1ha (0.247 acres)	
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 acres)	eres)
	0 Vegetated hummucks/tuss		Moderate 1 to <4ha (2.47 to 9.88	
	1 Coarse woody debris >15c		High 4ha (9.88 acres) or more	<u> </u>
	1 Standing dead >25cm (10i 0 Amphibian breeding pools		raphy Cover Scale	
		0	Absent	
		1	Present very small amounts or if of marginal quality	
		2	Present in moderate amounts, bu	ighest quality
50		3	Present in moderate or greater ar and of highest quality	iiourits

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

OAK RUN SOLAR TYLER GILLETTE 5/2/2022

		circle answer or insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	23	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	50	Category based on score breakpoints Category 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	Wetland is categorized as a Category 3 wetland	NO X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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	Wetland is categorized as a Category 1 wetland	NO X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category					
Choose one	Category 1	Category 2	Category 3		
Category 2		$\overline{}$			

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization			
Vancian 5 0	Background Information			
Version 5.0	Scoring Boundary Worksheet			
	Narrative Rating	Ohio EPA, Division of Surface Water		
	Field Form Quantitative Rating	Final: February 1, 2001		
	ORAM Summary Worksheet			
	Wetland Categorization Worksheet			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Charlie Allen

Date: 06/08/2022

Affiliation:

Stantec

Address:

1500 Kake Shore Drive, Suite 100, Colmbus, OH 43204

Phone Number:

(614)643-4348

e-mail address:

charlie.allen@stantec.com

Name of Wetland: Wetland 15

Vegetation Communit(ies): PEM

HGM Class(es):

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

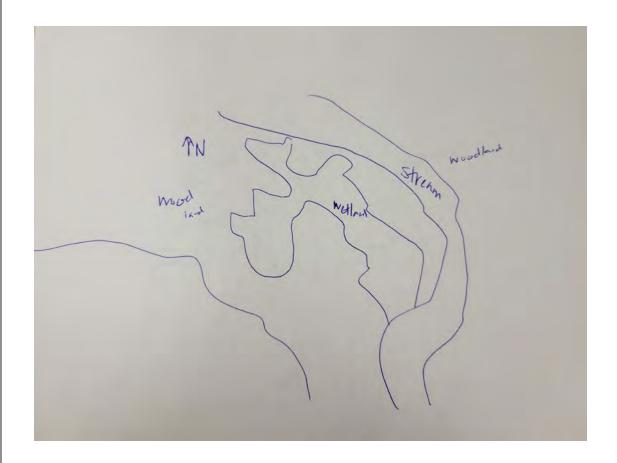


Lat/Long or UTM Coordinate 40.001431, -83.400458	
USGS Quad Name Plumwood	
County Madison County	
Township Monrow TWP	
Section and Subsection N/a	
Hydrologic Unit Code 050600012004	
Site Visit 06/02/2022	
National Wetland Inventory Map Yes	
Ohio Wetland Inventory Map No	
Soil Survey of Madison County	
Delineation report/map Figure 4 - Wetland and Waterbody Delination	

Name of Wetland: Wetland 15

Wetland Size (acres, hectares): 0.42 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Category: 2 Final score: 58

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.

Charlie Allen Oak Run Solar Project 06/08/2022 Steps in properly establishing scoring boundaries done? not applicable Step 1 Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc. Identify the locations where there is physical evidence that hydrology Step 2 changes rapidly. Such evidence includes both natural and humaninduced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland. Step 3 Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary. Step 4 Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes. Step 5 In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately. Step 6 Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape,

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

divided by artificial boundaries, contiguous to streams, lakes or rivers,

or for dual classifications.

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.

Oak Run Solar Project Charlie Allen 06/08/2022

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO So to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO So to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO So to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO So to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO So to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Solution 8 Solution
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead spags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: 0	ak Run	Solar Project	Rater(s):Charlie Allen		Date: 06/08/2022
2	2	Metric 1. Wetland Ar	ea (size).		
max 6 pts.	subtotal	Select one size class and assign score >50 acres (>20.2ha) (6 pts)	.2ha) (5 pts) a) (4 pts) (3 pts) ha) (2pts)		
8	10	Metric 2. Upland buf	fers and surroundi	ng land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average 2 NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. 2nd growth or of LOW. Old field (>10 years), MODERATELY HIGH. Resident	(164ft) or more around wetland pe 5m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetlan	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) /erage. life area, etc. (7) orest. (5) ervation tillage, new fallor	w field. (3)
24	34	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lake 3c. Maximum water depth. Select only >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (3) 3c. Modifications to natural hydrologic	e water (3) e or stream) (5) 3d. o one and assign score.	Part of wetland/up Part of riparian or Duration inundation/satu Semi- to permane Regularly inundate Seasonally inundate Seasonally satura	n (1) ake and other human use (1) aland (e.g. forest), complex (1) upland corridor (1) ration. Score one or dbl check ntly inundated/saturated (4) ed/saturated (3)
		None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	Check all disturbances observed ditch tile dike weir stormwater input	point source (nons filling/grading road bed/RR track dredging other	,
18	52	Metric 4. Habitat Alte	eration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one Volume or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only			
		Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)			
		4c. Habitat alteration. Score one or do None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting	shrub/sapling rem herbaceous/aquat sedimentation	
9	52 subtotal this pa	age	selective cutting woody debris removal toxic pollutants	dredging farming nutrient enrichmer	nt
last revised		· .	<u> </u>		

Cito. O	al. D.	Colon Duois et	Deter/el-objective	A.H	Data - 06/09/2022
Site: 0	ak Run	Solar Project	Rater(s): Charlie	Allen	Date: 06/08/2022
SL	52 abtotal first pa	i	tetle e le		
0	52	Metric 5. Special W	retiands.		
max 10 pts.	subtotal	Check all that apply and score as inc Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5 Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies (Relict Wet Prairies (10) Known occurrence state/fe Significant migratory song Category 1 Wetland. See	wetland-unrestricted hyd wetland-restricted hydrol Oak Openings) (10) ederal threatened or enda bird/water fowl habitat or Question 1 Qualitative Ra	ngered species (10) usage (10) ating (-10)	
6	58	Metric 6. Plant con	nmunities, inte	erspersion, microto	pography.
max 20 pts.	subtotal	』 ─6a. Wetland Vegetation Communitie	es. Vegetation (Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	71 acres) contiguous area
		Aquatic bed	1	Present and either comprises small	
		2 Emergent	•	vegetation and is of moderate qu	
		1 Shrub		significant part but is of low qual	
		0 Forest	2	Present and either comprises sign	-
		Mudflats	_	vegetation and is of moderate qu	
		Open water		part and is of high quality	danty or comprised a critain
		Other	3	Present and comprises significant	nart or more of wetland's
		6b. horizontal (plan view) Interspers		vegetation and is of high quality	
		Select only one.		vegetation and is of high quality	
			Narrativo Do	escription of Vegetation Quality	
		High (5) Moderately high(4)	low	Low spp diversity and/or predoming	canco of poppativo or
		✓ Moderate (3)	IOW	disturbance tolerant native spec	
		Moderate (3) Moderately low (2)	mod	Native spp are dominant compone	
		Low (1)	mod	although nonnative and/or distu	•
		None (0)		can also be present, and specie	
		6c. Coverage of invasive plants. Re	ofor	moderately high, but generally w	
		to Table 1 ORAM long form for list.		threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native species	
		Extensive >75% cover (-5)	_	and/or disturbance tolerant nativ	
		✓ Moderate 25-75% cover (-5)		absent, and high spp diversity a	
		Sparse 5-25% cover (-1)	0)	the presence of rare, threatened	
		Nearly absent <5% cover	· /		, or chadingered app
		Absent (1)		Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	
		1 Vegetated hummucks/tuss		Moderate 1 to <4ha (2.47 to 9.88	acres)
		1 Coarse woody debris >150	· ' '	High 4ha (9.88 acres) or more	
		0 Standing dead >25cm (10)			
		1 Amphibian breeding pools		raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if r of marginal quality	
			2	Present in moderate amounts, but quality or in small amounts of hi	•
	Ī		3	Present in moderate or greater an and of highest quality	
58					

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Oak Run Solar Project Charlie Allen 06/08/2022

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	NO 🔽	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO 🔽	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO 🔽	If yes, Category 3.
	Question 4. Significant bird habitat	NO 🔽	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO 🔽	If yes, Category 1.
	Question 6. Bogs	NO 🔽	If yes, Category 3.
	Question 7. Fens	NO 🔽	If yes, Category 3.
	Question 8a. Old Growth Forest	NO 🔽	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO 🔽	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO 🔽	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO 🔽	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO 🔽	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO 🔽	If yes, Category 3
	Question 11. Relict Wet Prairies	NO 🔻	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
Ü	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	24	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	6	
	TOTAL SCORE	58	Category based on score breakpoints Category 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	NO X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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	Wetland is categorized as a Category 1 wetland	NO X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	Category 2	Category 3	
Category 🔽		X		

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization			
Vancian 5 0	Background Information			
Version 5.0	Scoring Boundary Worksheet			
	Narrative Rating	Ohio EPA, Division of Surface Water		
	Field Form Quantitative Rating	Final: February 1, 2001		
	ORAM Summary Worksheet			
	Wetland Categorization Worksheet			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Chalie Allen

Date: 06/08/2022

Affiliation:

Stantec

Address:

1500 Lake Shore Drive, Suite 100, Columbus, OH 43204

Phone Number:

(614)643-434

e-mail address:

charlie.allen@stantec.com

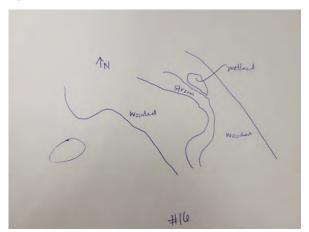
Name of Wetland: Wetland 16

Vegetation Communit(ies): PFO

HGM Class(es):

Depression

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

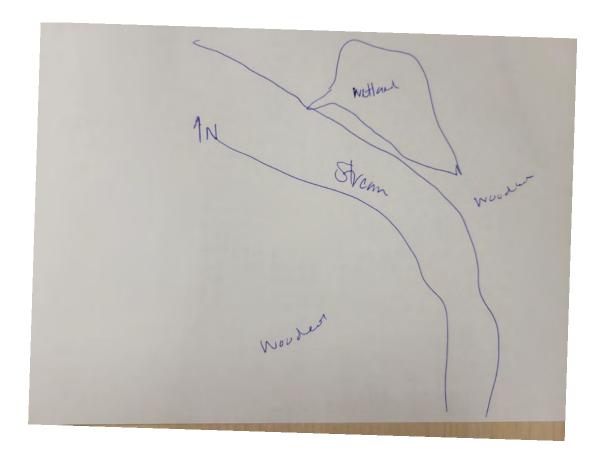


Lat/Long or UTM Coordinate 40.001472, -83.400355	
USGS Quad Name Plumwood	
County Madison County	
Township Monrow RWP	
Section and Subsection N/a	
Hydrologic Unit Code 050600012004	
Site Visit 06/02/2022	
National Wetland Inventory Map Yes	
Ohio Wetland Inventory Map No	
Soil Survey of Madison County	
Delineation report/map Figure 4 - Wetand and Waterbody Delination	

Name of Wetland: Wetland 16

Wetland Size (acres, hectares): 0.08

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score: 58

Category: 2

•

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

Oak Run Chalie Allen 06/08/2022

Steps in properly establishing scoring boundaries done? not applicable
Step 1 Identify the wetland area of interest. This may be the site of a

#	Steps in properly establishing scoring boundaries	aone?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		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.

Oak Run Challe Allen 06/08/2022

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO So to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO So to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO So to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO So to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO So to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO So to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Oak Run	Chalie Allen		06/08/2022
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9a YES Go to Question 9b	NO X Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Solution
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative	NO Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Oak Run Rater(s):Chalie Allen Da			Date: 06/08/2022
1	1	Metric 1. Wetland Area (size).	
max 6 pts.	subtotal	Select one size class and assign score.	
8	9	Metric 2. Upland buffers and surrounding land use.	
max 14 pts.	subtotal	2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) ✓ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) ∠OW. Old field (>10 years), shrub land, young second growth forest. (5) ✓ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	ow field. (3)
25	34	Metric 3. Hydrology.	
max 30 pts.	subtotal	✓ Precipitation (1) Part of wetland/u ✓ Perennial surface water (lake or stream) (5) 3d. Duration inundation/sate 3c. Maximum water depth. Select only one and assign score. Semi- to permane >0.7 (27.6in) (3) ✓ ✓ Regularly inundation/sate ✓ Regularly inundation/sate ✓ Seasonally inundation/sate ✓ Seasonally inundation/sate	in (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check. ently inundated/saturated (4) ted/saturated (3)
		Recovered (7) Recovering (3) Recent or no recovery (1) Recovering (3) Itile Recovering (3) Itile Recovering (3) Itile Recovering (4) Itile Recovering (4) Itile Recovering (5) Itile Recovering (7) Itile Recovering (7) Itile Recovering (7) Itile Recovering (8) Itile Recovering (8)	
16	50	Metric 4. Habitat Alteration and Development.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or double check and average. ✓ None or none apparent (4) — Recovered (3) — Recovering (2) — Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. — Excellent (7)	
		Very good (6) Good (5) Moderately good (4) ✓ Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average.	
sı	50	✓ None or none apparent (9) Check all disturbances observed Recovered (6) mowing shrub/sapling ren Recovering (3) grazing herbaceous/aqua clearcutting sedimentation dredging woody debris removal farming toxic pollutants nutrient enrichment	ttic bed removal

last revised 1 February 2001 jjm

Site: 0	ak Run	Rater	(s): Chalie <i>A</i>	Allen Date: 06/08/2022
	50 btotal first pa			
0	50	Metric 5. Special Wetlan	ds.	
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-Lake Erie coastal/tributary wetland-Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	estricted hydro nings) (10) eatened or enda fowl habitat or	angered species (10) usage (10)
8	58	Metric 6. Plant commun	ities, int	erspersion, microtopography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
		Score all present using 0 to 3 scale. Aquatic bed 1 Emergent	<u>0</u> 1	Absent or comprises <0.1ha (0.2471 acres) contiguous area Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a
		Shrub 1 Forest Mudflats	2	significant part but is of low quality Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small
		Open water		part and is of high quality
		Other6b. horizontal (plan view) Interspersion.	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
		Select only one.	Nametica D	accoming tion of Versatetian Quality
		High (5) Moderately high(4) ✓ Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
		Moderately low (2) Low (1) None (0)	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
		6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add		moderately high, but generally w/o presence of rare threatened or endangered spp
		or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)	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
		Nearly absent <5% cover (0)	Mudfleten	d Onen Water Class Ovelity
		Absent (1) 6d. Microtopography.	0	d Open Water Class Quality Absent <0.1ha (0.247 acres)
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		0 Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		1 Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
		2 Standing dead >25cm (10in) dbh 1 Amphibian breeding pools	Microtopog	graphy Cover Scale
		_	0	Absent
			1	Present very small amounts or if more common of marginal quality
			3	Present in moderate amounts, but not of highest quality or in small amounts of highest quality Present in moderate or greater amounts
58				and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Oak Run Chalie Allen 06/08/2022

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	NO 🔽	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO 🔽	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO 🔽	If yes, Category 3.
	Question 4. Significant bird habitat	NO 🔽	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO 🔽	If yes, Category 1.
	Question 6. Bogs	NO 🔽	If yes, Category 3.
	Question 7. Fens	NO 🔽	If yes, Category 3.
	Question 8a. Old Growth Forest	NO 🔽	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO 🔽	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO 🔽	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO 🔽	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO 🔻	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO 🔽	If yes, Category 3
	Question 11. Relict Wet Prairies	NO 🔻	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
J	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	25	
	Metric 4. Habitat	16	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	8	
	TOTAL SCORE	58	Category based on score breakpoints Category 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	NO X	Is quantitative rating score less than the Category 2 scoring threshold (excluding 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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO X	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category							
Choose one	Category 1	Category 2	Category 3				
Category 🔽		$\overline{}$					

End of Ohio Rapid Assessment Method for Wetlands.

OAK RUN SOLAR PROJECT WETLAND AND WATERBODY DELINEATION REPORT

B.3 QHEI FORM





Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:	47.25
QIILI OCCIOI	

Stream & Location: Stream 1	RM: Date:10/ 13/ 21
Oak Run Solar Project Sco	orers Full Name & Affiliation: Michelle Kearns / Stantec
River Code:	Lat./Long.: 39 . 999476 /8 3 . 455779 Office verified location
1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present BEST TYPES POOL RIFFLE HARDPAN [4] BBUR /SLABS [10] BBULDER [9] GRAVEL [7] XXX SAND [6] BEDROCK [5] NUMBER OF BEST TYPES: 4 or more [2] sludge from Comments	Check ONE (Or 2 & average) ORIGIN POOL RIFFLE IDENTIFY ORIGIN ORI
quality; 3-Highest quality in moderate or greater amounts (e.g., ve diameter log that is stable, well developed rootwad in deep / fast v	of highest quality or in small amounts of highest ry large boulders in deep or fast water, large vater, or deep, well-defined, functional pools. Check ONE (Or 2 & average)
3] CHANNEL MORPHOLOGY Check ONE in each categor SINUOSITY DEVELOPMENT CHANNELIZATION CHANNELIZAT	ATION STABILITY HIGH [3] MODERATE [2] LOW [1]
✓ NONE / LITTLE [3] ☐ MODERATE 10-50m [3] ✓ ☐ MODERATE [2] ☑ NARROW 5-10m [2] ✓ ☐ HEAVY / SEVERE [1] ☐ VERY NARROW < 5m [1]	FLOOD PLAIN QUALITY FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD [1] FENCED PASTURE [1] OPEN PASTURE, ROWCROP [0] FIGURE 100 A STURE 11 A STURE 11 A STURE 12 A STURE 12 A STURE 12 A STURE 13 A STURE 14 A STURE 15 A STURE 16 A STURE 16 A STURE 16 A STURE 16 A STURE 17 A STURE 1
5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH CHANNEL WIDTH Check ONE (ONLY!) Check ONE (Or 2 & average) > 1m [6] POOL WIDTH > RIFFLE WIDTH [2] 0.7-<1m [4] POOL WIDTH = RIFFLE WIDTH [1] 0.4-<0.7m [2] POOL WIDTH < RIFFLE WIDTH [0] 0.2-<0.4m [1] < 0.2m [0] Comments	CURRENT VELOCITY Check ALL that apply TORRENTIAL [-1] SLOW [1] VERY FAST [1] INTERSTITIAL [-1] FAST [1] DEDDIES [1] Indicate for reach - pools and riffles. Recreation Potential Primary Contact Secondary Contact (circle one and comment on back) Pool / Current Maximum 12
RIFFLE DEPTH RUN DEPTH RIFF BEST AREAS > 10cm [2] MAXIMUM > 50cm [2] STABI BEST AREAS 5-10cm [1] MOD. BEST AREAS < 5cm Unit Maximum = 50cm [1] MOD. Comments	be large enough to support a population NE (Or 2 & average). LE / RUN SUBSTRATE RIFFLE / RUN EMBEDDEDNESS LE (e.g., Cobble, Boulder) [2] NONE [2]
6] GRADIENT (14.5 ft/mi) ☐ VERY LOW - LOW [2-4] DRAINAGE AREA ☐ MODERATE [6-10] (5.63 mi²) ☐ HIGH - VERY HIGH [10-6]	%POOL: 20 %GLIDE: 35 Gradient 8 %RUN: (35) %RIFFLE: 10

FJ MEASUREMENTS x bankfull width 7.5' bankfull max. depth floodprone x² width bankfull x depth 1 entrench. ratio Comment RE: Reach consistency/Is reach typical of steam?, Recreation/Observed - Inferred, Other/Sampling observations, Concerns, Access directions, etc. **x** depth 1.25' x width 8.8' Legacy Tree: Cerker max. depth W/D ratio residale-Milford HARDENED / URBAN / DIRT&GRIME **LOGGING / IRRIGATION / COOLING** FALSE BANK / MANURE / LAGOON BMPs-CONSTRUCTION-SEDIMENT NATURAL / WETLAND / STAGNANT Waintaine WWTP / CSO / NPDES / INDUSTRY nankun ACID / MINE / QUARRY / FLOW WASH H₂0 / TILE / H₂0 TABLE ATMOSPHERE / DATA PAUCITY **BANK / EROSION / SURFACE** PARK / GOLF / LAWN / HOME CONTAMINATED / LANDFILL El ISSUES Swale Circle some & COMMENT Grang. 17255c namtaene FLOOD CONTROL / DRAINAGE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA **MODIFIED / DIPPED OUT / NA** MOVING-BEDLOAD-STABLE YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED IMPOUNDED / DESICCATED RELOCATED / CUTOFFS DI MAINTENANCE ARMOURED / SLUMPS LEVEED / ONE SIDED Mentaened ISLANDS / SCOURED pH - 7.5, Temperature - 20.1, Conductivity - 1100 INVASIVE MACROPHYTES ☐ DISCOLORATION
☐ FOAM / SCUM
☐ OIL SHEEN
☐ TRASH / LITTER
☐ NUISANCE ODOR
☐ SLUDGE DEPOSITS
☐ CSOS/SSOS/OUTFALLS **BI AESTHETICS EXCESS TURBIDITY** POOL: □>100ft²□>3ft ☐ NUISANCE ALGAE AREA DEPTH CJ RECREATION CH □ > 70 cm/ CTB □ SECCHI DEPTH□ CI 1st -sample pass- 2nd --sample pass--CLARITY Stream Drawing: STAGE □ 20-<40 cm Stream Drawing: AJ SAMPLED REACH 40-70 cm Check ALL that apply √ 20 cm ☐ 10%-<30% ☐ <10%- CLOSED ✓ > 85%- OPEN

☐ 55%-<85%
</p> CANOPY 30%-<55% DISTANCE □ BOAT
☑ WADE
□ L. LINE
□ OTHER 0.15 Km 0.12 Km METHOD 0.5 Km 0.2 Km OTHER meters



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score	<u>:</u> [[3
WIILI SCOIE	- (

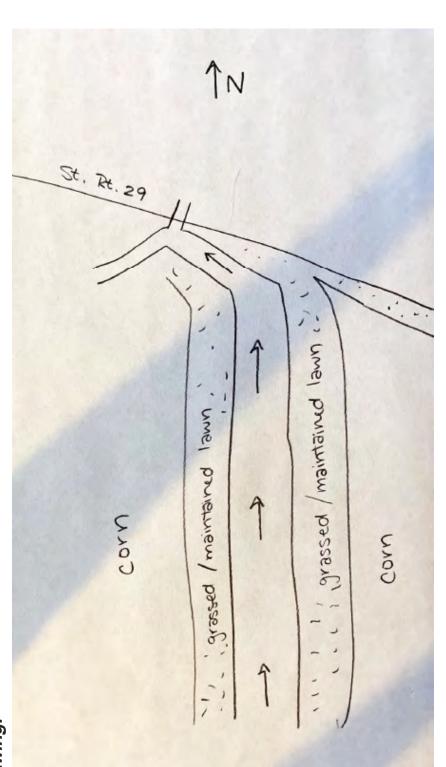
Stream & Location: Stream 1		<i>RM:</i>	Date:11/ 9 / 21
Oak Run Solar Project	Scorers F	<i>iull Name & Affiliation:</i> Angela	a Sjollema / Stantec
River Code:		Lat./ Long.: 40 . 009947 /8	
1] SUBSTRATE Check ONLY Two strestimate % or note of estimate % or	ubstrate TYPE BOXES; every type present OTHER TYPES POOL RI DETRITUS [3] MUCK [2] SILT [2] ARTIFICIAL [0] SCore natural substrates:	Check ONE (Or ORIGIN LIMESTONE [1] TILLS [1] WETLANDS [0] HARDPAN [0]	2 & average) QUALITY HEAVY [-2] MODERATE [-1] Substrate
2] INSTREAM COVER Indicate pre quality; 2-N quality; 3-Highest quality in moderate or diameter log that is stable, well develope 1 UNDERCUT BANKS [1] OVERHANGING VEGETATION [1] SHALLOWS (IN SLOW WATER) 1 ROOTMATS [1] Comments	greater amounts, but not of highe greater amounts (e.g., very large led rootwad in deep / fast water, or POOLS > 70cm [2] ROOTWADS [1]	ist quality or in small amounts of highe boulders in deep or fast water, large deep, well-defined, functional pools.	St Check ONE (Or 2 & average) ☐ EXTENSIVE >75% [11] ☐ MODERATE 25-75% [7] ☑ SPARSE 5-<25% [3]
3] CHANNEL MORPHOLOGY Ch SINUOSITY DEVELOPMEN HIGH [4]	IT CHANNELIZATION	STABILITY HIGH [3] MODERATE [2] LOW [1]	Channel Maximum 20
EROSION WIDE NONE / LITTLE [3] MOD	ARIAN WIDTH E > 50m [4]	EST, SWAMP [3] UB OR OLD FIELD [2] DENTIAL, PARK, NEW FIELD [1] CED PASTURE [1]	CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] MINING / CONSTRUCTION [0] Cate predominant land use(s) t 100m riparian. Riparian Maximum 5
Check ONE (<i>ONLY!</i>) Check □ > 1m [6] □ POOL WII □ 0.7-<1m [4] □ POOL WII	ANNEL WIDTH ONE (Or 2 & average) DTH > RIFFLE WIDTH [2]	CURRENT VELOCITY Check ALL that apply RRENTIAL [-1] SLOW [1] RY FAST [1] INTERSTITIAL [-1] ST [1] INTERMITTENT [-2] DERATE [1] DEDDIES [1] Idicate for reach - pools and riffles.	
of riffle-obligate species: RIFFLE DEPTH RUN □ BEST AREAS > 10cm [2] □ MAXIM	Check ONE (Or 2) I DEPTH RIFFLE / RU UM > 50cm [2] STABLE (e.g., UM < 50cm [1] MOD. STABLE	UN SUBSTRATE RIFFLE / R Cobble, Boulder) [2] E (e.g., Large Gravel) [1] G., Fine Gravel, Sand) [0]	
DRAINAGE AREA 🗆 N	/ERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6]	%POOL: 0 %GLI %RUN: 0 %RIFF	DE: 100 Gradient 10

					FJ MEASUREMENTS	x width 2.5'	x depth 10'	max denth	v bankfull width 3 E'	honlein douth 1 71	Bankiuli x deptir 1.5	W/D ratio	bankfull max, depth	floodprone x ² width	entrench. ratio	Legacy Tree:	
					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 ₂ 0 / TILE / H ₂ 0 TABLE	ACID / MINE / QUARRY / FLOW	NATURAL / WETLAND / STAGNANT	PARK / GOLF / LAWN / HOME	ATMOSPHERE / DATA PAUCITY
					Circle some & COMMENT		Channelized, managed										
	onductivity: 700				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
	pH: 7.5, Temperature: 11.1 degrees Celsius, Conductivity: 700				BJ AESTHETICS	☐ NUISANCE ALGAE	☐ INVASIVE MACROPHYTES	☐ EXCESS TURBIDITY	☐ DISCOLORATION	☐ FOAM / SCUM	□ OIL SHEEN	☐ TRASH / LITTER	☐ NUISANCE ODOR	☐ SLUDGE DEPOSITS	☐ CSOs/SSOs/OUTFALLS	ATION AREA DEPTH	POOL: □>100ft²□>3ft
Check ALL that apply		- 1st -sample pass- 2nd - IIIGH			CLARITY	← L		<u>l</u>	40-70 cm	_ > 70 cm/ CIB	☐ SECCHI DEPTH☐	PY 1st cm	SSI	ed co	,	CI RECREATION	
Check	METHOD	☐ BOAT	L. LINE	DISTANCE	0.5 Km	0.15 Km	□ 0.12 Km	☐ OTHER	i)	00	meters	CANOPY	7 85% OPEN	55%-/85%	30%55%	10%-<30%	☐ <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/Observed - Inferred, Other/Sampling observations, Concerns, Access directions, etc.

AJ SAMPLED REACH

Stream Drawing:





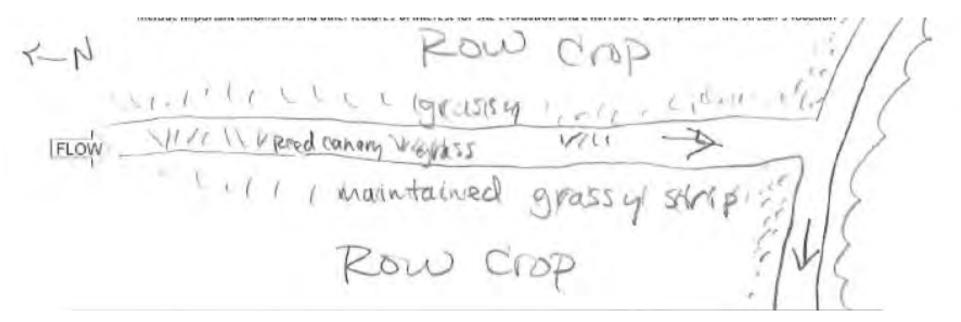
Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:	41
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Stream & Location: Stream 3 - Oak Ru	ın	RM: Date: 11/ 09/ 21
Oak Run Solar Project	Scorers Full Name & Affiliation	n: Angela Sjollema/Stantec
River Code: STORE	1 -4 /1	713 /83.44881 Office verified location
□ BLDR /SLABS [10] □ HA □ BOULDER [9] □ DI □ COBBLE [8] × □ M □ GRAVEL [7] × × □ SI □ SAND [6] □ AI	Present Check	QUALITY QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] FREE [1] EXTENSIVE [-2] MODERATE [-1]
Comments 3 or less [0		□ NONE [1]
quality; 3-Highest quality in moderate or greater an diameter log that is stable, well developed rootwadUNDERCUT BANKS [1] OVERHANGING VEGETATION [1]	3: 0-Absent; 1-Very small amounts or if more commounts, but not of highest quality or in small amoun nounts (e.g., very large boulders in deep or fast wat in deep / fast water, or deep, well-defined, function POOLS > 70cm [2] OXBOWS, BACKWAT ROOTWADS [1] AQUATIC MACROPH BOULDERS [1] LOGS OR WOODY D	check ONE (Or 2 & average) ter, large ter, large tal pools. □ EXTENSIVE >75% [11] ■ MODERATE 25-75% [7] ■ SPARSE 5-<25% [3] ■ NEARLY ABSENT <5% [1] Cover Maximum 5
		20
☐ HIGH [4] ☐ EXCELLENT [7] ☐ NO ☐ MODERATE [3] ☐ GOOD [5] ☐ RE ☐ LOW [2] ☐ FAIR [3] ☐ RE	n each category (<i>Or 2 & average</i>) SHANNELIZATION STABILITY DNE [6] ECOVERED [4] ECOVERING [3] ECENT OR NO RECOVERY [1]	Channel Maximum 20
4] BANK EROSION AND RIPARIAN ZOIR River right looking downstream EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1] Comments RIPARIAN V WIDE > 50m [4] NARROW 5-10r VERY NARROW NONE [0]	VIDTH R FLOOD PLAIN QUAI FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] FOREST STANDARD	LITY CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] MINING / CONSTRUCTION [0] Indicate predominant land use(s)
5] POOL / GLIDE AND RIFFLE / RUN QU MAXIMUM DEPTH CHANNEL N Check ONE (ONLY!) Check ONE (Or 2 > 1m [6] POOL WIDTH > RIFF 0.7-<1m [4] POOL WIDTH = RIFF 0.4-<0.7m [2] POOL WIDTH < RIFF 0.2-<0.4m [1] < 0.2m [0] Comments	WIDTH & average) Check ALL that apply FLE WIDTH [2] TORRENTIAL [-1] VERY FAST [1] INTERS	Primary Contact Secondary Contact (circle one and comment on back) Primary Contact
of riffle-obligate species: RIFFLE DEPTH RUN DEPTH □ BEST AREAS > 10cm [2] □ MAXIMUM > 50cm	areas must be large enough to suppor Check ONE (Or 2 & average). RIFFLE / RUN SUBSTRATE RII n [2] □ STABLE (e.g., Cobble, Boulder) [2] n [1] ☑ MOD. STABLE (e.g., Large Gravel) [1] □ UNSTABLE (e.g., Fine Gravel, Sand) [0]	Tt a population NO RIFFLE [metric=0] FFLE / RUN EMBEDDEDNESS NONE [2] LOW [1] MODERATE [0] Riffle / Run Maximum Maximum 8
6] GRADIENT (22.8 ft/mi) VERY LOW DRAINAGE AREA MODERATI	701 OOL.\ OO	%GLIDE: 0 Gradient 10

	ED REACH ALL that apply	Temp: 9 degrees Celsius pH: 7.3 Co	31	n/Observed - Inferred, <i>Other</i>	7/Sampling observations, Concerns, Acc	ess directions, etc.
METHOD □ BOAT □ WADE □ L. LINE □ OTHER DISTANCE	STAGE 1st-sample pass- 2nd HIGH UP NORMAL LOW DRY	pollution from agricultural runo	ff			
□ 0.5 Km □ 0.2 Km □ 0.15 Km □ 0.12 Km □ 0.12 Km □ OTHER 60 meters	CLARITY 1stsample pass 2nd < 20 cm ✓ 20-<40 cm ☐ 40-70 cm ☐ > 70 cm/ CTB ☐ SECCHI DEPTH	☐ INVASIVE MACROPHYTES ☐ EXCESS TURBIDITY ☐ DISCOLORATION ☐ FOAM / SCUM	DJ MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED	Circle some & COMMENT	E] ISSUES WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE	F] MEASUREMENTS \overline{\pi} width 3.0' \overline{\pi} depth 0.5' max. depth \overline{\pi} bankfull width 4.0' bankfull \overline{\pi} depth 1.0'
CANOP ✓ > 85%- OP ☐ 55%-<85% ☐ 30%-<55%	EN g 2nd cm	TRASH / LITTER NUISANCE ODOR SLUIDGE DEPOSITS	RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SLUMPS ISLANDS / SCOURED		FALSE BANK / MANURE / LAGOON WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT	W/D ratio bankfull max. depth floodprone x ² width entrench. ratio
☐ 10%-<30%	C] RECRE	EATION AREA DEPTH POOL: □>100ft2□>3ft	IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE		PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	Legacy Tree:

Stream Drawing:





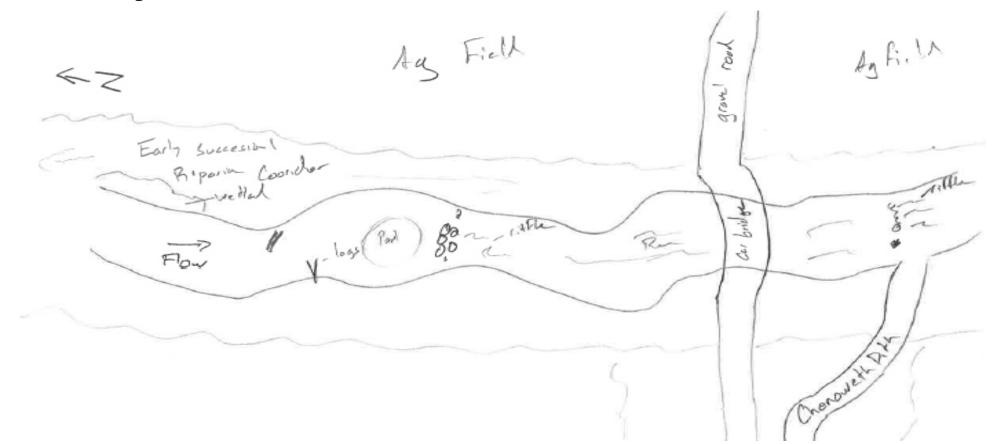
Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:	84
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Stream & Location: Oak Run Solar / Madison County	_ <i>RM:</i> _	<i>Date:</i> 03	<u>/ 28/ 22</u>
Stream 8 / Spring Fork Scorers Full Name & Affiliation:	Tyler Gill	lette / Stanted	
River Code: STORET #: Lat./Long.: 39 . 9960	0 <u>4</u> 1 /8 _3.	. <u>397578</u>	Office verified location
BEST TYPES	ONE (Or 2 &	QUALIT HEAVY [-2] MODERATE NORMAL [0] FREE [1]	[-1] Substrate
SAND [6] BEDROCK [5] NUMBER OF BEST TYPES: 4 or more [2] sludge from point-sources) SANDSTONE [0] RIP/RAP [0] LACUSTURINE [0] SHALE [-1] COAL FINES [-2]		☐ EXTENSIVE ☐ MODERATE NORMAL [0] ☐ NONE [1]	[-1] Maximum 20
2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more comme quality; 2-Moderate amounts, but not of highest quality or in small amounts quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functiona UNDERCUT BANKS [1]	of highest r, large l pools. [ERS [1] [TES [1] [Check ONE (Or 2 EXTENSIVE >7 MODERATE 25 SPARSE 5-<25' NEARLY ABSE	& average) 5% [11] -75% [7] % [3]
Comments			ximum 16
3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average) SINUOSITY DEVELOPMENT CHANNELIZATION STABILITY HIGH [4] EXCELLENT [7] NONE [6] HIGH [3] MODERATE [3] GOOD [5] RECOVERED [4] MODERATE [2] LOW [2] FAIR [3] RECOVERING [3] LOW [1] NONE [1] POOR [1] RECENT OR NO RECOVERY [1] Comments			nannel 15
4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Content of the content of the category for EACH BANK (Content of the category for EACH BANK (Conte	ITY	CONSERVATION 1 URBAN OR INDUS MINING / CONSTR e predominant land 00m riparian. Ri	STRIAL [0] UCTION [0]
5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH Check ONE (ONLY!) > 1m [6] 0.7-<1m [4] 0.4-<0.7m [2] 0.2-<0.4m [1] <0.2-w [0] Comments CHANNEL WIDTH CHANN	TIAL [-1] TENT [-2] 1]	С	ontact Contact
Indicate for functional riffles; Best areas must be large enough to support of riffle-obligate species: Check ONE (Or 2 & average). RIFFLE DEPTH RUN DEPTH RIFFLE / RUN SUBSTRATE RIF BEST AREAS > 10cm [2] MAXIMUM > 50cm [2] STABLE (e.g., Cobble, Boulder) [2] MAXIMUM < 50cm [1] MOD. STABLE (e.g., Large Gravel) [1] BEST AREAS < 5cm [metric=0] Comments	FLE / RUI	☐NO RIF N EMBEDDED ONE [2] OW [1]	Riffle /
6] GRADIENT (11.8 ft/mi)	%GLIDE	\longrightarrow \sim	adient 10

A] SAMPLE Check A	ED REACH LL that apply	Comment RE: Reach consistency/ I	s reach typical of steam?, Recreation	n/Observed - Inferred, Other	/Sampling observations, Concerns, Acc	ess directions, etc.
METHOD BOAT WADE L. LINE OTHER DISTANCE	STAGE 1st -sample pass- 2nd HIGH UP NORMAL LOW DRY	Temperature - 2.9 C PH - 7.0 Conductivity - 440 microsieme	ns			
 ✓ 0.5 Km ☐ 0.2 Km ☐ 0.15 Km ☐ 0.12 Km ☐ OTHER 	CLARITY 1stsample pass 2nd < 20 cm □ 20-<40 cm □ 40-70 cm □ > 70 cm/ CTB □ SECCHI DEPTH□	☐ INVASIVE MACROPHYTES ☐ EXCESS TURBIDITY ☐ DISCOLORATION ☐ FOAM / SCUM	DJ MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA	Circle some & COMMENT	E] ISSUES WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING	F] MEASUREMENTS \$\overline{x}\$ width 50 \$\overline{x}\$ depth 3 max. depth \$\overline{x}\$ bankfull width 58 bankfull \$\overline{x}\$ depth 3
CANOP\	Y 1stcm :N 8 2ndcm	☐ TRASH / LITTER ☐ NUISANCE ODOR ☐ SLUDGE DEPOSITS ☐ CSOs/SSOs/OUTFALLS	LEVEED / ONE SIDED RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SLUMPS ISLANDS / SCOURED IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE		BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	W/D ratio bankfull max. depth floodprone x ² width entrench. ratio Legacy Tree:

Stream Drawing:





Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:	75
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Stream & Location: Oak Run Solar / Madison County	RM:	Date:(03/ 28/ 22
Stream 9 / Chenoweth Ditch Scorers Full Name & Affiliation:	Tyler Gill	ette / Stant	ec
River Code:	78 /8 _3.	<u>404415</u>	Office verified location
1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present BEST TYPES POOL RIFFLE OTHER TYPES HARDPAN [4] 10 10 LIMESTONE [1] BOULDER [9] 10 10 DETRITUS [3] TILLS [1] COBBLE [8] 30 30 MUCK [2] WETLANDS [0] GRAVEL [7] 30 30 SILT [2] 10 10 HARDPAN [0] SAND [6] 10 10 ARTIFICIAL [0] SANDSTONE [0] BEDROCK [5] (Score natural substrates; ignore RIP/RAP [0] NUMBER OF BEST TYPES: 4 or more [2] sludge from point-sources) COAL FINES [-2]	SILT	average) QUALI HEAVY [-: MODERA NORMAL FREE [1] EXTENSI MODERA NORMAL NORMAL	2] TE [-1] Substrate [0]
2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common quality; 2-Moderate amounts, but not of highest quality or in small amounts quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional 1 UNDERCUT BANKS [1] 1 POOLS > 70cm [2] 1 OXBOWS, BACKWATE OVERHANGING VEGETATION [1] 1 ROOTWADS [1] 0 AQUATIC MACROPHY BOULDERS [1] 1 BOULDERS [1] 1 LOGS OR WOODY DEED COMMENTS	of highest, large pools. [RS [1]	Check ONE (O) EXTENSIVE MODERATE SPARSE 5-< NEARLY ABS	r 2 & average) > 75% [11] 25-75% [7]
3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average) SINUOSITY DEVELOPMENT CHANNELIZATION STABILITY HIGH [4] EXCELLENT [7] NONE [6] HIGH [3] MODERATE [3] GOOD [5] RECOVERED [4] MODERATE [2] LOW [2] FAIR [3] RECOVERING [3] LOW [1] NONE [1] POOR [1] RECENT OR NO RECOVERY [1] Comments		٨	Channel 17 Maximum 20
4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (OR River right looking downstream RIPARIAN WIDTH FLOOD PLAIN QUALITY REROSION WIDE > 50m [4] FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD PLAYY / SEVERE [1] VERY NARROW < 5m [1] FENCED PASTURE [1] OPEN PASTURE, ROWCROP [0] Comments	TY R	CONSERVATION JRBAN OR IND MINING / CONS a predominant la Om riparian.	USTRIAL [0] TRUCTION [0]
5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH Check ONE (ONLY!) > 1m [6] O.7-<1m [4] O.4-<0.7m [2] O.2-<0.4m [1] <0.2em [0] Comments CHANNEL WIDTH CURRENT VELOCITY Check ALL that apply TORRENTIAL [-1] Very FAST [1] INTERMIT MODERATE [1] Indicate for reach - pools and rift Comments	ΓΙΑL [-1] TENT [-2]]	Recreation Primary Secondary (circle one and con	Contact / Contact
□ BEST AREAS > 10cm [2] □ MAXIMUM > 50cm [2] □ STABLE (e.g., Cobble, Boulder) [2] □ BEST AREAS 5-10cm [1] □ MAXIMUM < 50cm [1] □ MOD. STABLE (e.g., Large Gravel) [1] □ BEST AREAS < 5cm □ UNSTABLE (e.g., Fine Gravel, Sand) [0] Comments	FLE / RUN	N EMBEDDE ONE [2] OW [1] ODERATE [0] KTENSIVE [-1]	RIFFLE [metric=0] DNESS Riffle /
6] GRADIENT (16.7 ft/mi)	%GLIDE %RIFFLE	\longrightarrow .	Gradient 10

AJ SAMPLED REACH Check ALL that apply METHOD STAGE BOAT	Temperature - 3.9 C PH - 8.1 Conductivity - 450 microsieme B] AESTHETICS NUISANCE ALGAE INVASIVE MACROPHYTES EXCESS TURBIDITY DISCOLORATION FOAM / SCUM OIL SHEEN TRASH / LITTER NUISANCE ODOR SLUDGE DEPOSITS CSOs/SSOs/OUTFALLS	,,	n/ Observed - Inferred, <i>Other</i> 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 ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	F] MEASUREMENT. \(\overline{x}\) width 5ft \(\overline{x}\) depth 1ft \(\overline{x}\) bankfull width 8ft bankfull \(\overline{x}\) depth 3ft \(\overline{w}\) M/D ratio bankfull max. depth floodprone \(x^2\) width entrench. ratio \(Legacy Tree: \)
Stream Drawing:		ad to	lelle		
Root Root Cool (4) Vittle (4) North					
		9 62	e11		

OAK RUN SOLAR PROJECT WETLAND AND WATERBODY DELINEATION REPORT

B.4: HHEI FORMS



B.4



ChioEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION Oak Run Solar Project	
Stream 2 SITE NUMBER RIVER BASIN DRAINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) 200 LAT. 40.00583 LONG83.42844 RIVER CODE RIVER MILE	
DATE 10/13/21 SCORER M. Kearns COMMENTS Intermittent	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Inst	ructions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERED RECOVE	COVERY
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.	HHEI Metric
TYPE PERCENT TYPE PERCENT □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Points
BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 0%	Substrat
BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0% COBBLE (65-256 mm) [12 pts] 20% CLAY or HARDPAN [0 pt] 0%	Max = 40
COBBLE (65-256 mm) [12 pts]	
SAND (<2 mm) [6 pts] 30% ARTIFICIAL [3 pts] 0%	19
Total of Percentages of 20.00% (A) Substrate Percentage 100% (B)	A + B
Bldr Slabs, Boulder, Cobble, Bedrock	"
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TIPES: 13 TOTAL NUMBER OF SUBSTRATE TIPES: 4	
 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): 	Pool Dep Max = 30
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	
> 22.5 - 30 cm [30 pts]	15
COMMENTS MAXIMUM POOL DEPTH (centimeters): 10	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Bankful Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ≤ 1.0 m (<=3' 3") [5 pts]	Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS TOB: W-7', H-7" OHWM: W-6', H-2" AVERAGE BANKFULL WIDTH (meters): 2.10	20
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
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	
Wide >10m	
Field — Open Besture Bow C	ron
Narrow <5m	юр
None Serviced Pasture Serviced Mining or Construction	1
•	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (Intermitten	t)
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	1
COMMENTS_	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0	
✓ 0.5	
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 V No QHEI Score (If Yes, Attack	ch Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name: Spring Fork	Distance from Evaluated Stream 0.31
	Distance from Evaluated effecting.
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Plumwood, OH NRCS Soil Map Pa	age: NRCS Soil Map Stream Order
County: Madison Township / City: Plumwo	ood
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/08/21	Quantity: 0.03
Photograph Information: upstream, downstream, substrate	
Elevated Turbidity? (Y/N): N Canopy (% open): 100%	
Were samples collected for water chemistry? (Y/N): Note lab sample no. or id. al	nd attach results) Lab Number:
1	B.30 Conductivity (µmhos/cm) 950
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
, <u>, , , , , , , , , , , , , , , , , , </u>	
Additional comments/description of pollution impacts:	
Additional confinency description of politicion impacts.	
Performed? (Y/N): Y (If Yes, Record all observations. Voucher collections optional. ID number. Include appropriate field data sheets from the Prim Voucher? (Y/N) N Salamanders Observed? (Y/N) N Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrate Comments Regarding Biology:	nary Headwater Habitat Assessment Manual) Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This Include important landmarks and other features of interest for site evaluation and a narrative description of Stream Stre	ription of the stream's location
October state Licensein	\ \



Chief Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION Oak Run Solar Project Stream 3 SITE NUMBER RIVER BASIN DRAINAGE AREA (mi²) 0.52 LENGTH OF STREAM REACH (ft) 200 LAT. 40.01687 LONG83.46054 RIVER CODE RIVER MILE
LENGTH OF STREAM REACTI (II)
DATE 11/09/21 SCORER A. Sjollema COMMENTS Ephemeral
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS:
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 HHE Metr
BLDR SLABS [16 pts] OW SILT [3 pt] OW Point
BOULDER (>256 mm) [16 pts]
COBBLE (65-256 mm) [12 pts] 15% CLAY or HARDPAN [0 pt] 0%
GRAVEL (2-64 mm) [9 pts] 50% MUCK [0 pts] 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%
SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]
Total of Percentages of 15.00% (A) Substrate Percentage Check 100% (B) 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 Pool De
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <i>ONLY</i> one box): > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]
> 22.5 - 30 cm [30 pts] <5 cm [5 pts]
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5
COMMENTS 1/2" MAXIMUM POOL DEPTH (centimeters):
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfu
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ✓ > 1.0 m (< 3' 3" - 4' 8") [15 pts] ✓ Max=3
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
COMMENTS BF: W-3.5', H-1' OHWM: W-2.5', H-6" AVERAGE BANKFULL WIDTH (meters): 1.10
This information <u>must</u> 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
☐ Wide >10m ☐ Mature Forest, Wetland ☐ Conservation Tillage ☐ Immature Forest, Shrub or Old ☐ ☐
Moderate 5-10m
✓ ✓ Narrow <5m
None Fenced Pasture Mining or Construction COMMENTS
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (Intermittent)
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)
Subsurface flow with isolated pools (Interstitial) COMMENTS COMMENTS
Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 Dry channel, no water (Ephemeral) Check ONLY one box): 2.0 3.0
Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):
Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	<u>.</u>
QHEI PERFORMED? - Yes ✓ No QHEI Score (If Yes, A	ttach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name: Spring Fork	Distance from Evaluated Stream 1.42
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHI	ED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Plumwood, OH NRCS Soil Map	Page: NRCS Soil Map Stream Order
County: Madison Township / City: Deek	Creek Twp
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/30/21	Quantity: 0.13
Photograph Information: Upstream, Downstream, Substrate	
Elevated Turbidity? (Y/N): N Canopy (% open): 100%	
Were samples collected for water chemistry? (Y/N): Note lab sample no. or id	l. and attach results) Lab Number:
Field Measures: Temp (°C) 11.00 Dissolved Oxygen (mg/l) pH (S.U.)	8.00 Conductivity (µmhos/cm) 480
Is the sampling reach representative of the stream (Y/N) If not, please explain:_	
Intermittent and perennial downstream	
Additional comments/description of pollution impacts:	
Agriculture runoff	
ID number. Include appropriate field data sheets from the Fish Observed? (Y/N) N Salamanders Observed? (Y/N) N	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM Include important landmarks and other features of interest for site evaluations. FLOW THE PROPERTY OF THE PROPER	



Chieff Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION Oak Run Solar Project	
Stream 3 SITE NUMBER RIVER BASIN DRAINAGE AREA (mi²) 0	.52
LENGTH OF STREAM REACH (ft) 200 LAT. 40.01763 LONG83.45619 RIVER CODE RIVER MILE	
DATE 11/09/21 SCORER A. Sjollema COMMENTS Intermittent	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	uctions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERING.	OVERY
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.	HHEI
TYPE PERCENT TYPE PERCENT PERCENT	Metric
BLDR SLABS [16 pts]	Points
BEDROCK [16 pt]	Substrat
COBBLE (65-256 mm) [12 pts] 10% CLAY or HARDPAN [0 pt] 0%	Max = 40
✓ GRAVEL (2-64 mm) [9 pts] 50% MUCK [0 pts] 0% ✓ SAND (<2 mm) [6 pts]	19
Table (Personal area of (A)	
Bldr Slabs, Boulder, Cobble, Bedrock	A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 4	
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):	Pool Dep
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	IVIAX = 3
	15
COMMENTS MAXIMUM POOL DEPTH (centimeters): 5	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Bankful Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ≤ 1.0 m (<=3' 3") [5 pts]	Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS BF: W-3.5', H-1' OHWM: W-3', H-6" AVERAGE BANKFULL WIDTH (meters):	15
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY L. D. (Mark Parliam trans Bank)	
L R (Per Bank) L R (Most Predominant per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old Urban or Industrial	
✓ Narrow <5m Residential, Park, New Field ✓ Open Pasture, Row Cro	ıρ
None Fenced Pasture Mining or Construction	
COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	
Stream Flowing Moist Channel, isolated pools, no flow (Intermittent)	
Stream Flowing Moist Channel, isolated pools, no flow (Intermittent)	
Stream Flowing Subsurface flow with isolated pools (Interstitial) Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral)	
Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) None Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral) (Check ONLY one box): 2.0 3.0	
Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) None 0.5 1.0 2.0 3.0 3.0 3.0 3.0 3.0 3.0 3	
Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) None Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral) (Check ONLY one box): 2.0 3.0	-

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? - Yes V No QHEI Score (If Yes, Att	ach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name: Spring Fork	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHE	D AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Plumwood, OH NRCS Soil Map	
County: Madison Township / City: Deek	Creek Twp
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/30/21	Quantity: 0.13
Photograph Information: Upstream, Downstream, Substrate	
Elevated Turbidity? (Y/N): N Canopy (% open): 100%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id.	and attach results) Lab Number:
Field Measures: Temp (°C) 12.30 Dissolved Oxygen (mg/l) pH (S.U.)	7.10 Conductivity (µmhos/cm) 640
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Perennial section downstream	
Additional comments/description of pollution impacts:	
Additional comments/description of pollution impacts: Agriculture runoff	
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections options ID number. Include appropriate field data sheets from the PI Fish Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebra Comments Regarding Biology:	rimary Headwater Habitat Assessment Manual) Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM Include important landmarks and other features of interest for site evaluation as the land of the stream of the	
Grassy.	CIO.



Chieff Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION Savion - Oak Run	
Stream 4 SITE NUMBER RIVER BASIN DRAINAGE AREA (mi²)).49
LENGTH OF STREAM REACH (ft) 200 LAT. 40.00834 LONG83.45382 RIVER CODE RIVER MILE	
DATE 11/09/21 SCORER A. Sjollema COMMENTS Intermittent	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Insti	ructions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERED RECOVE	OVERY
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.	HHE
TYPE PERCENT TYPE PERCENT	Metric
BLDR SLABS [16 pts]	T Office
BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0%	Substrat Max = 40
COBBLE (65-256 mm) [12 pts]	
☐ ☐ GRAVEL (2-64 mm) [9 pts] ☐ MUCK [0 pts] ☐ 0% ☐ ARTIFICIAL [3 pts] ☐ 0% ☐ 0% ☐ 0% ☐ 0% ☐ 0% ☐ 0% ☐ 0% ☐ 0	1
Total of Percentages of Occasi (A) Substrate Percentage (B)	A + B
Bldr Slabs, Boulder, Cobble, Bedrock Check	A T B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 0 TOTAL NUMBER OF SUBSTRATE TYPES: 1	
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):	Pool Dep Max = 30
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	Indx = 0
> 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts]	25
E"	25
COMMENTS MAXIMUM POOL DEPTH (centimeters): 13	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Bankful
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	Width Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] COMMENTS BF: W-2', H-8" OHWM: W-1', H-6" AVERAGE BANKFULL WIDTH (meters): 0.60	Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] COMMENTS BF: W-2', H-8" OHWM: W-1', H-6" AVERAGE BANKFULL WIDTH (meters): This information must also be completed	Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] COMMENTS BF: W-2', H-8" OHWM: W-1', H-6" AVERAGE BANKFULL WIDTH (meters): 0.60	Max=30
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH	Max=30
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY AND ERROR ENRY (Per Bank) L R (Per Bank) Wide >10m Moderate 5-10m AVERAGE BANKFULL WIDTH (meters): 0.60 AVERAGE BANKFULL WIDTH (meters): AVERAGE BANKFULL WIDTH (meters): 0.60 L R (Most Predominant per Bank) L R (Most Predominant per Bank) Moderate 5-10m Moderate 5-10m Urban or Industrial	Max=30
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY L R (Per Bank) Wide >10m Wide >10m Mature Forest, Wetland Moderate 5-10m AVERAGE BANKFULL WIDTH (meters): 0.60 AVERAGE BANKFULL WIDTH (meters): L R (Most Predominant per Bank) L R (Most Predominant per Bank) Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Urban or Industrial Field Conservation Power Pasture Row Creater R	Max=30
COMMENTS BF: W-2', H-8" OHWM: W-1', H-6" This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH L R (Per Bank) Wide >10m Mature Forest, Wetland Moderate 5-10m Residential, Park, New Field AVERAGE BANKFULL WIDTH (meters): 0.60 L R (Most Predominant per Bank) L R Conservation Tillage Immature, Row Cr	5 Sop
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY L R (Per Bank) Wide >10m Wide >10m Mature Forest, Wetland Moderate 5-10m AVERAGE BANKFULL WIDTH (meters): 0.60 AVERAGE BANKFULL WIDTH (meters): L R (Most Predominant per Bank) L R (Most Predominant per Bank) Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Urban or Industrial Field Conservation Power Pasture Row Creater R	5 Sop
COMMENTS BF: W-2', H-8" OHWM: W-1', H-6" This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) Wide >10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field None COMMENTS AVERAGE BANKFULL WIDTH (meters): 0.60 AVERAGE BANKFULL WIDTH (meters): 0.60 AVERAGE BANKFULL WIDTH (meters): 0.60 L R (Most Predominant per Bank) L R (Most Predominant per Bank) L R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland Conservation Tillage Urban or Industrial Open Pasture, Row Cr None COMMENTS	5 Sop
COMMENTS BF: W-2', H-8" OHWM: W-1', H-6" 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) Wide >10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field Fenced Pasture COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing MODERATE AVERAGE BANKFULL WIDTH (meters): 0.60 AVERAGE BANKFULL WIDTH	5 Sop
COMMENTS BF: W-2', H-8" OHWM: W-1', H-6" This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) Wide >10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	5 Sop
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream Another Endowments (Most Predominant per Bank) Wide >1.0 Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field Viangle (At Time of Evaluation) Stream Flowing Subsurface flow with isolated pools (Interstitial) AVERAGE BANKFULL WIDTH (Meters): 0.60 ANOTE: River Left (L) and Right (R) as looking downstream Another Left (L) and Right (R) and Right (R) as looking downstream Another Left (L) and Right (R) and Right (R) and Right (R) and Rig	5 Sop
COMMENTS BF: W-2', H-8" OHWM: W-1', H-6" This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) Wide >10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field Vi Narrow <5m None Fenced Pasture COMMENTS FLOW REGIME (At Time of Evaluation) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) None SINUOSITY (Number of bends per 61 m (200 ft) of channel) AVERAGE BANKFULL WIDTH (meters): 0.60 AVERAGE BANKFULL WID	5 Sop
COMMENTS BF: W-2', H-8" OHWM: W-1', H-6" This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH L R (Per Bank) L R (Most Predominant per Bank) L R (Wide >10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Urban or Industrial Narrow <5m Residential, Park, New Field Open Pasture, Row Cr Residential, Park, New Field Mining or Construction COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	5 Sop
COMMENTS BF: W-2', H-8" OHWM: W-1', H-6" This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) Wide >10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field Vi Narrow <5m None Fenced Pasture COMMENTS FLOW REGIME (At Time of Evaluation) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) None SINUOSITY (Number of bends per 61 m (200 ft) of channel) AVERAGE BANKFULL WIDTH (meters): 0.60 AVERAGE BANKFULL WID	5

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? - Yes No QHEI Score (If Yes, Attac	h Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name: Spring Fork	Distance from Evaluated Stream 2.90
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Plumwood, OH NRCS Soil Map Pa	ge: NRCS Soil Map Stream Order
County: Madison Township / City: Somerfo	ord Twp
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation:_ 10/30/21	Quantity: 0.13
Photograph Information: Upstream, Downstream, Substrate	
Elevated Turbidity? (Y/N): N Canopy (% open): 100%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. ar	nd attach results) Lab Number:
Find Weasures. Fellip (6) Bissolved exygent (mg/r)	Conductivity (µmhos/cm) 610
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
Agriculture runoff	
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. ID number. Include appropriate field data sheets from the Prim Fish Observed? (Y/N) N Salamanders Observed? (Y/N) N	•
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrate	
Comments Regarding Biology:	
DRAWING AND NADDATIVE DESCRIPTION OF STRE	AU DEACH (This must be completed)
DRAWING AND NARRATIVE DESCRIPTION OF STRE Include important landmarks and other features of interest for site evaluation	
- A D - 17	an and a narrative description of the stream s location
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ChioEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION Oak Run Solar Project	
Stream 5 SITE NUMBER RIVER BASIN DRAINAGE AREA (mi²)).09
LENGTH OF STREAM REACH (ft) 200 LAT. 40.00463 LONG83.46461 RIVER CODE RIVER MILE	
DATE 11/10/21 SCORER A. Sjollema COMMENTS Ephemeral, channelized, culverted	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Inst	ructions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERING.	OVERY
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	HHEI Metric
□ □ BLDR SLABS [16 pts] □ □ SILT [3 pt] 0%	Points
BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% FINE DETRITUS [3 pts] 0%	Substrat
COBBLE (65-256 mm) [12 pts] 5% CLAY or HARDPAN [0 pt] 85%	Max = 40
GRAVEL (2-64 mm) [9 pts]	12
SAND (<2 mm) [6 pts]	
Total of Percentages of 5.00% (A) Substrate Percentage Check (B)	A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 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	Pool Dep
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):	Max = 30
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 5 cm - 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts]	0
COMMENTS MAXIMUM POOL DEPTH (centimeters): 0	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankful
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] ≤ 1.0 m (<=3' 3") [5 pts]	Width Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS BF: W-3', H-1' OHWM: W-2.5', 6" AVERAGE BANKFULL WIDTH (meters): 0.90	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	
Wide >10m	
Field Field	
Narrow <5m Residential, Park, New Field Open Pasture, Row Cr	op
None Fenced Pasture Mining or Construction	1
•	L
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (Intermittent)	i)
Subsurface flow with isolated pools (Interstitial) ONMENTS ONMENTS	_
COMMENTS_	1
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):]
	1
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 >3 STREAM GRADIENT ESTIMATE]
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check <i>ONLY</i> one box): None 2.0 3.0 3.0 3.0 3.0 3.0	00 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? - Yes V No QHEI Score (If Yes, Atta	ach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name: Spring Fork	Distance from Evaluated Stream 2.90
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHEI	D AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Plumwood, OH NRCS Soil Map F	Page:NRCS Soil Map Stream Order
County: Madison Township / City: Some	rford Twp
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation:_ 10/30/21	Quantity: 0.13
Photograph Information: Upstream, Downstream, Substrate	
Elevated Turbidity? (Y/N): N Canopy (% open): 100%	
N	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	
v	
is the sampling reach representative of the stream (1774) in not, please explain	
Additional comments/description of pollution impacts:	
Agriculture runoff. Stream is buried then goes underground and feeds into Bales D	itch through culverts.
3 *************************************	
BIOTIC EVALUATION	
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional	al. NOTE: all voucher samples must be labeled with the site
ID number. Include appropriate field data sheets from the Pr	imary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N	Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Aquatic Macroinvertebra	
Comments Regarding Biology:	
No water	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM	AM REACH (This must be completed)
Include important landmarks and other features of interest for site evaluation	"이보면 교육 (1 보기 다른 "NEE") "((() () () () () () () () () () () () ()
1 1	D FORM
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Crop	



ChicEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION Oak Run Solar Project	
Stream 6 SITE NUMBER RIVER BASIN DRAINAGE AREA (mi²) 0.4	5
LENGTH OF STREAM REACH (ft) 200 LAT. 39.99300 LONG83.46061 RIVER CODE RIVER MILE	
DATE 11/09/21 SCORER A. Sjollema COMMENTS Perennial	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruc	tions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER DESCRIPTIONS:	/ERY
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.	HHEI
TYPE PERCENT TYPE PERCENT □ □ □ BLDR SLABS [16 pts] 0% □ □ SILT [3 pt] 0%	Metric Points
BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 0%	Cubatrat
BEDROCK [16 pt] FINE DETRITUS [3 pts]	Substrat Max = 40
COBBLE (65-256 mm) [12 pts]	
SAND (<2 mm) [6 pts] 0% ARTIFICIAL [3 pts] 0%	1
Total of Percentages of 0.00% (A) Substrate Percentage 100% (B)	A + B
Bldr Slabs, Boulder, Cobble, Bedrock Check TOTAL NUMBER OF SUBSTRATE TYPES: 0 TOTAL NUMBER OF SUBSTRATE TYPES: 1	
	Pool Dep
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	Max = 30
> 22.5 - 30 cm [30 pts]	25
COMMENTS 8" MAXIMUM POOL DEPTH (centimeters): 20	25
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankful
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	Max=30
COMMENTS BF: W-4.5', H-1' OHWM: W-4', H-8" AVERAGE BANKFULL WIDTH (meters): 1.40	15
AVEIXAGE SAINT GEE VIID III (IIIcticis).	
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	
Wide >10m	
Field Field	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (Intermittent)	
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0	
□ 0.5 □ 1.5 □ 2.5 □ >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100	70

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
CWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: London, OH NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Madison Township / City: Somerford Twp
MISCELLANEOUS
Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/30/21 Quantity: 0.13
Photograph Information: Upstream, Downstream, Substrate
Elevated Turbidity? (Y/N): N Canopy (% open): 100%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) 14.40 Dissolved Oxygen (mg/l) pH (S.U.) 7.40 Conductivity (µmhos/cm) 730
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
Agriculture runoff
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) N Voucher? (Y
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 ROW COP Reed canary Change Person ed GRUSSY G
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PHWH Form Page - 2

Save as pdf

Reset Form



ChicEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION Oak Run Solar Project Stream 7 SITE NUMBER RIVER BASIN DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft) 200 LAT. 39.98223 LONG83.43168 RIVER CODE RIVER MILE	
DATE 11/09/21 SCORER C. Allen COMMENTS Intermittent, channelized Ag Drainage Ditch	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Ins	tructions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REMODIFICATIONS:	COVERY
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.	HHEI Metric
TYPE PERCENT TYPE PERCENT 0% SILT [3 pt] 0%	Points
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% FINE DETRITUS [3 pts] 0%	Substrate
□ □ BEDROCK [16 pt] 0% □ □ FINE DETRITUS [3 pts] 0% □ □ CLAY or HARDPAN [0 pt] 0%	Max = 40
GRAVEL (2-64 mm) [9 pts] 20% MUCK [0 pts] 0%	17
SAND (<2 mm) [6 pts] 80% ARTIFICIAL [3 pts] 0%	
Total of Percentages of 0.00% (A) Substrate Percentage 100% (B) Check	A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 2	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	Pool Dep
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <i>ONLY</i> one box): > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	Max = 30
> 22.5 - 30 cm [30 pts]	25
COMMENTS MAXIMUM POOL DEPTH (centimeters): 18	
	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Bankful
2 0 0 m 4 0 m /s 01 7 ll 401\ 505 m t 1	Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ≤ 1.0 m (<=3' 3") [5 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] COMMENTS BF: W-3.5', D-10" OHWM: W-3', D-6" AVERAGE BANKFULL WIDTH (meters): This information must also be completed	Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] COMMENTS BF: W-3.5', D-10" OHWM: W-3', D-6" AVERAGE BANKFULL WIDTH (meters): 1.10 This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆	Max=30
COMMENTS BF: W-3.5', D-10" OHWM: W-3', D-6" This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: 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	Max=30
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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: CWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream
WH Name: Spring Fork	Distance from Evaluated Stream 2.44
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EN	ITIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: London, OH	NRCS Soil Map Page: NRCS Soil Map Stream Order
Madiana	ship / City: Somerford Twp
MISCELLANEOUS	
Base Flow Conditions? (Y/N):Y Date of last precipitation:	10/30/21 Quantity: 0.13
Photograph Information: Upstream, Downstream, Substrate	
Elevated Turbidity? (Y/N): N Canopy (% open): 100	%
Were samples collected for water chemistry? (Y/N): N (Note lab	o sample no. or id. and attach results) Lab Number:
	pH (S.U.) 7.30 Conductivity (µmhos/cm) 760
Y	please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
N	r collections optional. NOTE: all voucher samples must be labeled with the sit
ID number. Include appropriate field data	a sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders O Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquat	bserved? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N)
Comments Regarding Biology:	N Voucier ? (1/N)
	OF STREAM REACH (This <u>must</u> be completed)
Include important landmarks and other features of interest for	or site evaluation and a narrative description of the stream's location
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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

16

SITE	NAME/LOCATION Oak Run Solar / M	adison County			
	NUMBER Stream 10 RIVER BASIN		RIVER CODE	DRAINAGE AREA (mi²) 0.	14
LENG ⁻	TH OF STREAM REACH (ft) 200	LAT 39.994016	LONG <u>-83.400787</u>	RIVER MILE	
DATE	04/06/2022 SCORER T. Gillette	COMMENTS _	Ephemeral		
IOTE:	Complete All Items On This Form	- Refer to "Headwa	ter Habitat Evaluation Ind	lex Field Manual" for Ins	tructions
TREA	M CHANNEL MODIFICATIONS:	NONE / NATURAL CHA	NNEL RECOVERED RE	ECOVERING RECENT OR N	IO RECOVER
	SUBSTRATE (Estimate percent of ex (Max of 32). Add total number of significant (Max of 32). Add total number of	cant substrate types for ERCENT		rore is sum of boxes A & B PERCENT 70% 15% 0% 0% 0% 0% 0%	HHEI Metric Points Substrate Max = 40 11
2.	Maximum Pool Depth (Measure the				Pool Depth
П	time of evaluation. Avoid plunge pools > 30 centimeters [20 pts]	from road culverts or s	corm water pipes) (Check 0 5 cm - 10 cm [15 pts]	ONLY one box):	Max = 30
	> 22.5 - 30 cm [30 pts]		< 5 cm [5pts]		0
	> 10 - 22.5 cm [25 pts]	✓	NO WATER OR MOIST C		
	COMMENTS		MAXIMUM POOL DE	PTH (centimeters):	
3.	BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	e average of 3 - 4 mea		one box):	Bankfull Width Max=30
3.	> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	e average of 3 - 4 mea	surements) (Check <i>ONLY</i> > 1.0 m - 1.5 m (> 3' 3" - 4"	one box): [8")[15 pts]	Width
3.	BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	OHWM W-2' D-4" This information PLAIN QUALITY * I FLOODPLA L R Mature Fo Immature	AVERAGE BANKFUL AVERAGE BANKFUL AVERAGE BANKFUL Must also be completed NOTE: River Left (L) and Right AIN QUALITY (Most Predominal L rest, Wetland Forest, Shrub or Old Field I, Park, New Field	one box): [8")[15 pts] L WIDTH (meters) (R) as looking downstream ★ ant per Bank)	Width Max=30 5
3.	BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB W-2' D-4" RIPARIAN ZONE AND FLOOD RIPARIAN WIDTH (Per Bank) Per Bank) Wide >10m Moderate 5-10m Narrow <5m None	This information PLAIN QUALITY * I FLOODPLA L R Mature Fo Immature I Residentia Fenced Pa aluation) (Check ONL	AVERAGE BANKFUL AVERAGE BANKFUL Must also be completed NOTE: River Left (L) and Right AND QUALITY (Most Predominal Leest, Wetland Forest, Shrub or Old Field I, Park, New Field Isture AY one box):	Tone box): (R) as looking downstream ★ ant per Bank) R Conservation Tillage Urban or Industrial Open Pasture, Row Co Mining or Construction ated pools, no flow (intermitte	Width Max=30 5
3.	BANK FULL WIDTH (Measured as the second seco	This information PLAIN QUALITY * I FLOODPLA L R Mature Fo Immature Residentia Fenced Pa aluation) (Check ONL ols (interstitial)	AVERAGE BANKFUL AVERAGE BANKFUL AVERAGE BANKFUL Must also be completed NOTE: River Left (L) and Right AND QUALITY (Most Predomina L rest, Wetland Forest, Shrub or Old Field I, Park, New Field Isture AY one box): Moist Channel, isola Dry channel, no wa	Tone box): [8")[15 pts] L WIDTH (meters) (R) as looking downstream ★ ant per Bank) R Conservation Tillage Urban or Industrial Open Pasture, Row Cr Mining or Construction ated pools, no flow (intermitted ter (ephemeral)	Width Max=30 5

May 2020 Revision Page 1

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Spring Fork Distance from Evaluated Stream 0.0 mi
✓ WWH Name: Spring Fork Distance from Evaluated Stream 0.0 mi ☐ CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: London NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Madison Township/City: Monroe
MISCELLANEOUS
Base Flow Conditions? (Y/N): Y Date of last precipitation: 4/5/2022 Quantity: 0.05
Photo-documentation Notes: Upstream, Downstream, Substrate
Elevated Turbidity? (Y/N): N Canopy (% open): 50
Were samples collected for water chemistry? (Y/N):N Lab Sample # or ID (attach results):
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, explain:
Additional comments/description of pollution impacts: No water in channel to collect water quality
BIOLOGICAL OBSERVATIONS (Record all observations below)
(Record all observations below)
(Record all observations below) Fish Observed? (Y/N) Species observed (if known): Frogs or Tadpoles Observed? (Y/N) Species observed (if known):
(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):
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

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OAK RUN SOLAR PROJECT WETLAND AND WATERBODY DELINEATION REPORT

Appendix C PHOTOGRAPHS







Photo Location 1. View of wetland determination sample point (SP08; upland). Photograph taken facing north.



Photo Location 1. View of wetland determination sample point (SP08; upland) soil profile.





Photo Location 2. View of wetland determination sample point (SP07; upland). Photograph taken facing northwest.



Photo Location 2. View of wetland determination sample point (SP07; upland) soil profile.





Photo Location 3. View of grassed swale and agricultural habitat. Photograph taken facing west.



Photo Location 4. View of wetland determination sample point (SP11; upland). Photograph taken facing northeast.





Photo Location 4. View of wetland determination sample point (SP11; upland) soil profile.



Photo Location 5. View of second growth deciduous forest habitat. Photograph taken facing northwest.





Photo Location 6. View of agricultural habitat. Photograph taken facing south.



Photo Location 7. View of wetland determination sample point (SP15; upland). Photograph taken facing south.





Photo Location 7. View of wetland determination sample point (SP15; upland) soil profile.



Photo Location 8. View of Stream 3 (ephemeral). Photograph taken facing upstream, west.





Photo Location 8. View of Stream 3 (ephemeral). Photograph taken facing downstream, east.



Photo Location 8. View of Stream 3 (ephemeral), typical substrates.





Photo Location 9. View of Stream 3 (intermittent). Photograph taken facing upstream, southwest.



Photo Location 9. View of Stream 3 (intermittent). Photograph taken facing downstream, northeast.





Photo Location 9. View of Stream 3 (intermittent), typical substrates.



Photo Location 10. View of Stream 3 (perennial). Photograph taken facing upstream, southeast.





Photo Location 10. View of Stream 3 (perennial). Photograph taken facing downstream, south.



Photo Location 10. View of Stream 3 (perennial), typical substrates.





Photo Location11. View of wetland determination sample point (SP09; upland). Photograph taken facing south.



Photo Location 11. View of wetland determination sample point (SP09; upland) soil profile.





Photo Location 12. View of wetland determination sample point (SP10; upland). Photograph taken facing south.



Photo Location 12. View of wetland determination sample point (SP10; upland) soil profile.





Photo Location 13. View Stream 1 (perennial). Photograph taken facing upstream, northwest.



Photo Location 13. View of Stream 1 (perennial). Photograph taken facing downstream, southeast.





Photo Location 13. View of Stream 1 (perennial), typical substrates.



Photo Location 14. View second growth deciduos forest habitat. Photograph taken facing west.





Photo Location 15. View of wetland determination sample point (SP06; upland). photograph taken facing north.



Photo Location 15. View of wetland determination sample point (SP06; upland) soil profile.





Photo Location 16. View of second growth deciduous forest habitat. Photograph taken facing west.



Photo Location 17. View of wetland determination sample point (SP04; upland). Photograph taken facing west.





Photo Location 17. View of wetland determination sample point (SP04; upland) soil profile.



Photo Location 18. View of wetland determination sample point (SP05; upland). Photograph taken facing north.





Photo Location 18. View wetland determination sample point (SP05; upland) soil profile.



Photo Location 19. View of grassed swales habitat. Photograph taken facing west.





Photo Location 20. View Stream 4 (intermittent). Photograph taken facing upstream, east.



Photo location 20. View of Stream 4 (intermittent). Photograph taken facing downstream, northwest.





Photo Location 20. View of Stream 4 (intermittent), typical substrates.



Photo Location 21. View of Stream 4 (intermittent). Photograph taken facing upstream, northeast.





Photo Location 21. View Stream 4 (intermittent). Photograph taken facing downstream, southwest.



Photo Location 21. View of Stream 4 (intermittent), typical substrates.





Photo Location 22. View of agricultural habitat. Photograph taken facing north.



Photo Location 23. View of second growth deciduous forest habitat. Photograph taken facing east.





Photo Location 24. View of wetland determination sample point (SP14; upland). Photograph taken facing northwest.



Photo Location 24. View of wetland determination sample point (SP14; upland) soil profile.





Photo Location 25. View of wetland determination sample point (SP13; upland). Photograph taken facing northeast.



Photo Location 25. View of wetland determination sample point (SP13; upland), soil profile.





Photo Location 26. View of wetland determination sample point (SP12; upland). Photograph taken facing west.



Photo Location 26. View of wetland determination sample point (SP12; upland) soil profile.





Photo Location 27. View of Stream 1 (perennial). Photograph taken facing upstream, northeast.



Photo Location 27. View of Stream 1 (perennial). Photograph taken facing downstream, southwest.





Photo Location 27. View of Stream 1 (perennial), typical substrates.



Photo Location 28. View of agricultural habitat. Photograph taken facing southeast.





Photo Location 29. View of wetland determination sample point (SP24; upland). Photograph taken facing north.



Photo Location 29. View of wetland determination sample point (SP24; upland), soil profile.





Photo Location 30. View of wetland determination sample point (SP19; upland). Photograph taken facing northeast.



Photo Location 30. View of wetland determination sample point (SP19; upland), soil profile.





Photo Location 31. View of wetland determination sample point (SP20; upland). Photograph taken facing northeast.



Photo Location 31. View of wetland determination sample point (SP20; upland), soil profile.





Photo Location 32. View of wetland determination sample point (SP21; upland). Photograph taken facing south.



Photo Location 32. View of wetland determination sample point (SP21; upland), soil profile.





Photo Location 33. View of wetland determination sample point (SP18; upland). Photograph taken facing east.



Photo Location 33. View of wetland determination sample point (SP18; upland), soil profile.





Photo Location 34. View of existing gravel road. Photograph taken northeast.



Photo Location 35. View of wetland determination sample point (SP16; upland). Photograph taken facing north.





Photo Location 35. View of wetland determination sample point (SP16; upland), soil profile.

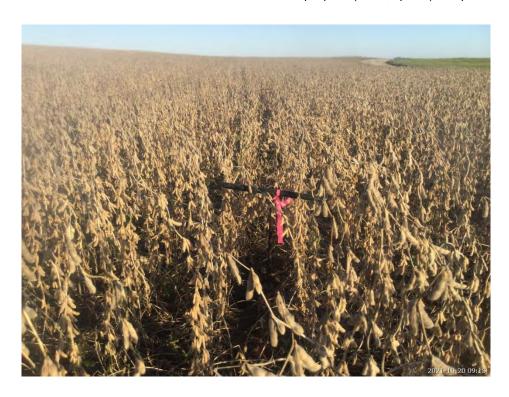


Photo Location 36. View of wetland determination sample point (SP17; upland). Photograph taken facing north.





Photo Location 36. View of wetland determination sample point (SP17; upland), soil profile.



Photo Location 37. View of Stream 5 (ephemeral). Photograph taken facing upstream, northeast.





Photo Location 37. View of Stream 5 (ephemeral). Photograph taken facing downstream southwest.



Photo Location 37. View of Stream 5 (ephemeral), typical substrates.





Photo Location 38. View of wetland determination sample point (SP49; upland). Photograph taken facing north.



Photo Location 38. View wetland determination sample point (SP49; upland) soil profile.





Photo Location 39. View of Stream 5 draining into field tile and flowing underground.



Photo Location 39. View of grassed swale habitat. Photograph taken facing east.





Photo Location 40. View wetland determination sample point (SP50). Photograph taken facing north.



Photo location 40. View of wetland determination sample point (SP50; upland), soil profile.





Photo Location 41. View of wetland determination sample point (SP51; upland). Photograph taken facing south.



Photo Location 41. View of wetland determination sample point (SP51; upland), soil profile.





Photo Location 42. View of wetland determination sample point (SP41; upland). Photograph taken facing west.



Photo Location 42. View of wetland determination sample point (SP41; upland), soil profile.





Photo Location 43. View of wetland determination sample point (SP40; upland). Photograph taken facing southeast.



Photo Location 43. View of wetland determination sample point (SP40; upland), soil profile.





Photo Location 44. View of wetland determination sample point (SP42; upland). Photograph taken facing south.



Photo Location 44. View of wetland determination sample point (SP42; upland) soil profile.





Photo Location 45. View of wetland determination sample point (SP39; PEM). Photograph taken facing west.



Photo Location 45. View of wetland determination sample point SP39; PEM), soil profile.





Photo Location 45. View of Wetland 2. Photograph taken facing north.



Photo Location 45. View of Wetland 2. Photograph taken facing east.





Photo Location 45. View of Wetland 2. Photograph taken facing south.



Photo Location 45. View of Wetland 2. Photograph taken facing west.





Photo Location 46. View of wetland determination sample point (SP38; upland). Photograph taken facing south.



Photo Location 46. View of wetland determination sample point (SP38; upland), soil profile.





Photo Location 47. View of wetland determination sample point (SP33; upland. Photograph taken facing east.



Photo Location 47. View of wetland determination sample point (SP33; upland), soil profile.





Photo Location 48. View of wetland determination sample point (SP34; PFO). Photograph taken facing west.



Photo Location 48. View of wetland determination sample point (SP34; PFO), soil profile.





Photo Location 48. View of Wetland 4. Photograph taken facing north.



Photo Location 48. View of Wetland 4. Photograph taken facing east.





Photo Location 48. View of Wetland 4. Photograph taken facing south.



Photo Location 48. View of Wetland 4. Photograph taken facing west.





Photo Location 49. View of wetland determination sample point (SP37; upland). Photograph taken facing east.



Photo Location 49. View wetland determination sample point (SP37; upland), soil profile.





Photo Location 50. View of wetland determination sample point (SP28; upland). Photograph taken facing west.



Photo Location 50. View of wetland determination sample point (SP28; upland), soil profile.





Photo Location 51. View of Stream 1 (Bales Ditch; perennial). Photograph taken facing upstream northest.



Photo Location 51. View of Stream 1 (Bales Ditch; perennial). photograph taken facing downstream southwest.





Photo Location 51. View of Stream 1 (Bales Ditch; perennial), typical substrates.



Photo Location 52. View of maintained lawn habitat. Photograph taken facing northeast.





Photo Location 53. View of wetland determination sample point (SP01; upland). Photograph taken facing southwest.



Photo Location 53. View of wetland determination sample point (SP01; upland) soil profile.





Photo Location 54. View of Stream 1 (perennial). Photograph taken facing upstream, north.



Photo Location 54. View of Stream 1 (perennial). Photograph taken facing downstream, southeast.





Photo Location 54. View of Stream 1 (perennial), typical substrates.



Photo Location 55. View wetland determination sample point (SP02; PEM). Photograph taken facing east.





Photo location 55. View of wetland determination sample point (SP02; PEM), soil profile.



Photo Location 55. View of Wetland 1. Photograph taken facing north.





Photo Location 55. View of Wetland 1. Photograph taken facing east.



Photo Location 55. View of Wetland 1. Photograph taken facing south.





Photo Location 55. View of Wetland 1. Photograph taken facing west.



Photo Location 56. View of wetland determination sample point (SP03; upland). Photograph taken facing east.





Photo Location 56. View of wetland determination sample point (SP03; upland), soil profile.



Photo Location 57. View of Stream 2 (intermittent). Photograph taken facing upstream, south.





Photo Location 57. View of Stream 2 (intermittent). Photograph taken facing downstream, north.



Photo Location 57. View of Stream 2 (intermittent), typical substrates.





Photo Location 58. View of Stream 2 (intermittent). Photograph taken facing upstream, southwest.



Photo Location 59. View of Stream 2 (intermittent). Photograph taken facing upstream, south.





Photo Location 60. View of existing road right-of-way (left) and agricultural habitat (right). Photograph taken facing northwest.



Photo Location 61. View of Stream 2 (intermittent). Photograph taken facing upstream, southwest.





Photo Location 61. View of Stream 2 (intermittent). Photograph taken facing downstream, northeast.



Photo Location 61. View of Stream 2 (intermittent), typical substrates.





Photo Location 62. View of agricultural habitat. Photograph taken facing north.

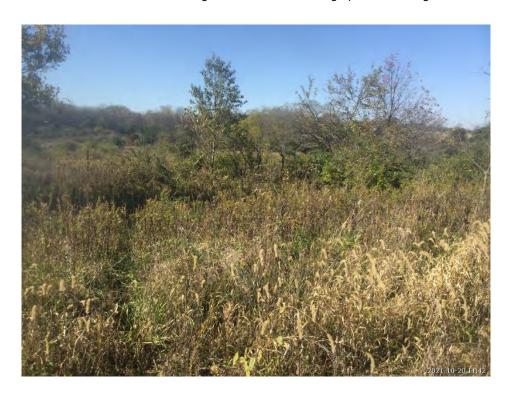


Photo Location 63. View of scrub/shrub habitat. Photograph taken facing south.





Photo Location 64. View of wetland determination sample point (SP23; upland). Photograph taken facing northwest.



Photo Location 64. View of wetland determination sample point (SP23; upland), soil profile.





Photo Location 65. View of second growth deciduous forest habitat. Photograph taken facing east.



Photo Location 66. View of wetland determination sample point (SP22; upland). Photograph taken facing south.





Photo Location 66. View of wetland determination sample point (SP22; upland), soil profile.



Photo Location 67. View of agricultural habitat. Photograph taken facing north.





Photo Location 68. View of wetland determination sample point (SP29; upland). Photograph taken facing north.



Photo Location 68. View of wetland determination sample point (SP29; upland), soil profile.





Photo Location 69. View of wetland determination sample point (SP30; PFO). Photograph taken facing west.



Photo Location 69. View of wetland determination sample point (SP30; PFO), soil profile.





Photo Location 69. View of Wetland 4. Photograph taken facing north.



Photo Location 69. View of Wetland 4. Photograph taken facing east.





Photo Location 69. View of Wetland 4. Photograph taken facing south.



Photo Location 69. View of Wetland 4. Photograph taken facing west.





Photo Location 70. View of wetland determination sample point (SP31; upland). Photograph taken facing north.



Photo Location 70. View of wetland determination sample point (SP31; upland), soil profile.





Photo Location 71. View of Stream 6 (perennial). Photograph taken facing, upstream southwest.



Photo Location 71. View of Stream 6 (perennial). Photograph taken facing downstream, northeast.





Photo Location 71. View of Stream 6 (perennial), typical substrates.



Photo Location 72. View of Stream 1 (Bales Ditch; perennial). Photograph taken facing upstream, west.





Photo Location 72. View Stream 1 (Bales Ditch; perennial). Photograph taken facing downstream, east.



Photo location 72. View of Stream 1 (Bales Ditch; perennial), typical substrates.





Photo Location 73. View of wetland determination sample point (SP32; upland). Photograph taken facing southwest.



Photo Location 73. View of wetland determination sample point (SP32; upland), soil profile.





Photo Location 74. View of wetland determination sample point (SP35; PEM). Photograph taken facing south.



Photo Location 74. View of wetland determination sample point (SP35; PEM), soil profile.





Photo Location 74. View of Wetland 5. Photograph taken facing north.



Photo Location 74. View of Wetland 5. Photograph taken facing east.





Photo Location 74. View of Wetland 5. Photograph taken facing south.



Photo Location 74. View of Wetland 5. Photograph taken facing west.





Photo Location 75. View of wetland determination sample point (SP36; upland). Photograph taken facing west.



Photo Location 75. View of wetland determination sample point (SP36; upland), soil profile.





Photo Location 76. View of second growth deciduous forest habitat. Photograph taken facing north.



Photo Location 77. View of Stream 2 (intermittent). Photograph taken facing upstream, southwest.





Photo Location 77. View of Stream 2 (intermittent). Photograph taken facing downstream, northeast.



Photo Location 77. View of Stream 2 (intermittent), typical substrate and agriculture drainage tile.





Photo Location 78. View of agricultural habitat. Photograph taken facing east.



Photo Location 79. View of grassed swale. Photograph taken facing east.





Photo Location 80. View of wetland determination sample point (SP27; upland). Photograph taken facing west.



Photo Location 80. View of wetland determination sample point (SP27; upland), soil profile.





Photo Location 81. View of wetland determination sample point (SP26; upland). Photograph taken facing northwest.



Photo Location 81. View of wetland determination sample point (SP26; upland), soil profile.





Photo Location 82. View of wetland determination sample point (SP45; PEM). Photograph taken facing south.



Photo Location 82. View of wetland determination sample point (SP45; PEM), soil profile.





Photo Location 82. View of Wetland 6. Photograph taken facing north.



Photo Location 82. View of Wetland 6. Photograph taken facing east.





Photo Location 82. View of Wetland 6. Photograph taken facing south.



Photo Location 82. View of Wetland 6. Photograph taken facing west.





Photo Location 83. View of wetland determination sample point (SP46; upland). Photograph taken facing west.



Photo Location 83. View of wetland determination sample point (SP46; upland), soil profile.





Photo Location 84. View wetland determination sample point (SP47; PEM). Photograph taken facing east.



Photo Location 84. View of wetland determination sample point (SP47; PEM), soil profile.





Photo Location 84. View of Wetland 7. Photograph taken facing north.



Photo Location 84. View of Wetland 7. Photograph taken facing east.





Photo Location 84. View of Wetland 7. Photograph taken facing south.



Photo Location 84. View of Wetland 7. Photograph taken facing west.





Photo Location 85. View of wetland determination sample point (SP48; upland). Photograph taken facing west.



Photo Location 85. View wetland determination sample point (SP48; upland), soil profile.





Photo Location 86. View of Stream 7 (Dun Ditch Number 2; intermittent). Photograph taken facing upstream, east.



Photo Location 86. View Stream 7 (Dun Ditch Number 2; intermittent). Photograph taken facing downstream, west.





Photo location 86. View of Stream 7 (Dun Ditch Number 2; intermittent), typical substrates.



Photo Location 87. View of Stream 7 (Dun Ditch Number 2; intermittent). Photograph taken facing upstream southeast.





Photo Location 87. View of Stream 7 (Dun Ditch Number 2; intermittent). Photograph taken facing downstream, west.



Photo Location 87. View Stream 7 (Dun Ditch Number 2; intermittent), typical substrates.





Photo Location 88. View of grassed swale. Photograph taken facing northeast.



Photo Location 89. View of grassed swale. Photograph taken facing west.





Photo Location 90. View of agricultural habitat. Photograph taken facing south.



Photo Location 91. View of wetland determination sample point (SP25; upland). Photograph taken facing west.





Photo Location 91. View of wetland determination sample point (SP25; upland) soil profile.



Photo Location 92. View of maintained lawn habitat. Photograph taken facing south.





Photo Location 93. View of existing paved road. Photograph taken facing southeast.



Photo Location 94. View of Stream 7 (Dun Ditch Number 2; intermittent). Photograph taken facing upstream, northeast.





Photo Location 94. View of Stream 7 (Dun Ditch Number 2; intermittent). Photograph taken facing downstream, west.



Photo Location 94. View of Stream 7 (Dun Ditch Number 2; intermittent), typical substrates.





Photo Location 95. View of wetland determination sample point (SP43; PSS). Photograph taken facing north.



Photo Location 95. View of wetland determination sample point (SP43; PSS), soil profile.





Photo Location 95. View of Wetland 8. Photograph taken facing north.



Photo Location 95. View of Wetland 8. Photograph taken facing east.





Photo Location 95. View of Wetland 8. Photograph taken facing south.



Photo Location 95. View of Wetland 8. Photograph taken facing west.





Photo Location 96. View of wetland determination sample point (SP44; upland). Photograph taken facing north.



Photo Location 96. View of wetland determination sample point (SP44; upland), soil profile.





Photo Location 97. View of grassed swale. Photograph taken facing southeast.



Photo Location 98. View of agricultural habitat. Photograph taken facing west.





Photo Location 99. View of upland drainage feature in agricultural habitat. Photograph taken facing north.



Photo Location 100. View of wetland determination sample point (SP52; upland). Photograph taken facing west.





Photo Location 100. View of wetland determination sample point (SP52; upland), soil profile.



Photo Location 101. View of agricultural habitat. Photograph taken facing east.





Photo Location 102. View of scrub shrub habitat. Photograph taken facing east.



Photo Location 103. View of early successional forest habitat. Photograph taken facing south.





Photo Location 104. View of maintatined lawn and existing barns. Photograph taken facing west.



Photo Location 105. View of wetland determineation sample point (SP53; PEM). Photograph taken facing east.





Photo Location 105. View of wetland determination sample point (SP53; PEM), soil profile.



Photo Location 105. View of Wetland 14. Photograph taken facing north.





Photo Location 105. View of Wetland 14. Photograph taken facing east.



Photo Location 105. View of Wetland 14. Photograph taken facing south.





Photo Location 105. View of Wetland 14. Photograph taken facing west.



Photo Location 106. View of wetland determination sample point (SP54; upland). Photograph taken facing west.





Photo Location 106. View of wetland determination sample point (SP54; upland), soil profile.



Photo Location 107. View of Wetland 13. Photograph taken facing north.





Photo Location 107. View of Wetland 13. Photograph taken facing east.



Photo Location 107. View of Wetland 13. Photograph taken facing south.





Photo Location 107. View of Wetland 13. Photograph taken facing west.



Photo Location 108. View of wetland determination sample point (SP55; PEM). Photograph taken facing northwest.





Photo Location 108. View of wetland determination sample point (SP55; PEM), soil profile.



Photo Location 109. View of wetland determination sample point (SP56; upland). Photograph taken facing southeast.





Photo Location 109. View of wetland determination sample point (SP56; upland), soil profile.



Photo Location 110. View of scrub shrub habitat. Photograph taken facing south.





Photo Location 111. View of wetland determination sample point (SP57; PEM). Photograph taken facing east.



Photo Location 111. View of wetland determination smaple point (SP57; PEM), soil profile.





Photo Location 111. View of Wetland 9. Photograph taken facing north.



Photo Location 111. View of Wetland 9. Photograph taken facing east.





Photo Location 111. View of Wetland 9. Photograph taken facing south.



Photo Location 111. View of Wetland 9. Photograph taken facing west.





Photo Location 112. View of wetland determination sample point (SP58; upland). Photograph taken facing north.



Photo Location 112. View of wetland determination sample point (SP58; upland), soil profile.





Photo Location 113. View of wetland determination sample point (SP59; PEM). Photograph taken facing northeast.



Photo Location 113. View of wetland determination sample point (SP59; PEM), soil profile.





Photo Location 113. View of Wetland 12. Photograph taken facing north.



Photo Location 113. View Wetland 12. Photograph taken facing east.





Photo Location 113. View of Wetland 13. Photograph taken facing south.



Photo Location 113. View of Wetland 12. Photograph taken facing west.





Photo Location 114. View of wetland determination sample point (SP60; upland). Photograph taken facing north.



Photo Location 114. View of wetland determination sample point (SP60; upland), soil profile.





Photo Location 115. View of second growth deciduous forest habitat. Photograph taken facing south.



Photo Location 116. View of early successional forest habitat. Photograph taken facing north.





Photo Location 117. View wetland determination sample point (SP61; PEM). Photograph taken facing south.



Photo Location 117. View of wetland determination sample point (SP61; PEM), soil profile.





Photo Location 117. View of Wetland 10. Photograph taken facing north.



Photo location 117. View of Wetland 10. Photograph taken facing east.





Photo Location 117. View of Wetland 10. Photograph taken facing south.



Photo Location 117. View of Wetland 10. Photograph taken facing west.





Photo Location 118. View wetland determination sample point (SP62; upland). Photograph taken facing south.



Photo Location 118. View of wetland determination sample point (SP62; upland), soil profile.





Photo Location 119. View of Stream 9 (Cheowerth Ditch; perennial). Photograph taken facing upstream, northwest.



Photo Location 119. View of Stream 9 (Chenowerth Ditch; perennial). Photograph taken facing downstream, east.





Photo Location 119. View of Stream 9 (Chenowerth Ditch; perennial), typical substrates.



Photo Location 120. View of Open Water 1. Photograph taken facing southeast.





Photo Location 121. View of Stream 8 (Spring Fork; perennial). Photograph taken facing upstream, north.

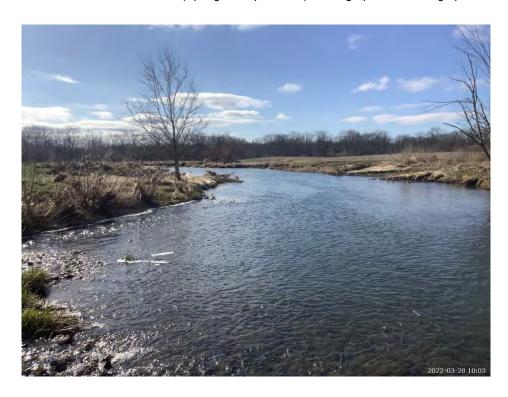


Photo Location 121. View of Stream 8 (Spring Fork; perennial). Photograph taken facing downstream, south.





Photo Location 121. View of Stream 8 (Spring Fork; perennial), typical substrates.



Photo Location 122. View of agricultural habitat. Photograph taken facing south.





Photo Location 123. View of maintained lawn habitat. Photograph taken facing west.



Photo Location 124. View of agricultural habitat. Photograph taken facing east.





Photo Location 125. View of maintained lawn and existing barn. Photograph taken facing west.



Photo Location 126. View of agricultural habitat Photograph taken facing north.





Photo Location 127. View of agricultural habitat. Photograph taken facing east.



Photo Location 128. View of scrub shrub habitat. Photograph taken facing east.





Photo Location 129. View of Stream 10 (ephemeral). Photograph taken facing upstream, northwest.



Photo Location 129. View of Stream 10 (ephemeral). Photograph taken facing downstream, southeast.





Photo Location 129. View of Stream 10 (ephemeral), typical substrates.



Photo Location 130. View of early successional forest. Photograph taken facing east.





Photo Location 131. View of wetland determination sample point (SP63; PEM). Photograph taken facing west.



Photo Location 131. View of wetland determination sample point (SP63; PEM), soil profile.





Photo Location 131. View of Wetland 11. Photograph taken facing north.



Photo Location 131. View of Wetland 11. Photograph taken facine east.





Photo Location 131. View of Wetland 11. Photograph taken facing south.



Photo Location 131. View of Wetland 11. Photograph taken facing west.





Photo Location 132. View of wetland determination sample point (SP64; upland). Photograph taken facing south.



Photo Location 132. View of wetland determination sample point (SP64; upland), soil profile.





Photo Location 133. View of second growh deciduous forest habitat. Photograph taken facing north.



Photo Location 134. View of agricultural habitat. Photograph taken facing west.





Photo Location 135. View of wetland determination sample point (SP69; upland). Photograph taken facing northwest.



Photo Location 135. View of wetland determination sample point (SP69; upland), soil profile.





Photo Location 136. View of scrub shrub habitat. Photograph taken facing southeast.



Photo Location 137. View of second growth deciduous forest habitat. Photograph taken facine south.





Photo Location 138. View of Stream 9, Chenowerth Ditch,. Photograph taken facing upstream, west.



Photo Location 138. View of Stream 9, Chenowerth Ditch,. Photograph taken facing downstream, east.





Photo Location 138. View of Stream 9, Chenowerth Ditch, typical substrates.



Photo Location 139. View of Stream 8, Spring Fork. Photograph taken facing upstream, north.





Photo Location 139. View of Stream 8, Spring Fork. Photograph taken facing downstream, southwest.



Photo Location 139. View of Stream 8, Spring Fork, typical substrates.





Photo Location 140. View of wetland determination sample point (SP66; upland). Photograph taken facing west.



Photo Location 140. View of wetland determination sample point (SP66; upland), soul profile.





Photo Location 140. View of wetland determination sample point (SP67; PEM). Photograph taken facing west.



Photo Location 140. View of wetland determination sample point (SP67; PEM), soil profile





Photo Location 140. View of Wetland 15. Photograph taken facine north.



Photo Location 140. View of Wetland 15. Photograph taken facine east.





Photo Location 140. View of Wetland 15. Photograph taken facine south.



Photo Location 140. View of Wetland 15. Photograph taken facine west.





Photo Location 141. View of wetland determination sample point (SP68; upland). Photograph taken facing west.



Photo Location 141. View of wetland determination sample point (SP68; upland), soil profile.





Photo Location 141. View of wetland determination sample point (SP67; PEM). Photograph taken facing northeast.



Photo Location 141. View of wetland determination sample point (SP67; PEM), soil profile.





Photo Location 142. View of Wetland 16. Photograph taken facing north.



Photo Location 142. View of Wetland 16. Photograph taken facing east.





Photo Location 142. View of Wetland 16. Photograph taken facing south.



Photo Location 142. View of Wetland 16. Photograph taken facing west.

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in

Case No(s). 22-0549-EL-BGN, 22-0550-EL-BTX

Summary: Application - Application 22 of 32 (Exhibit S(b) – Wetland and Waterbody Delineation Report electronically filed by Christine M.T. Pirik on behalf of Oak Run Solar Project, LLC