



Pike County Solar Project

Pike County Solar Project

PREPARED FOR
Pike County Solar Project, LLC

DATE
24 October 2024

REFERENCE
0718089



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1. INTRODUCTION

On behalf of Pike County Solar Project, LLC (Pike County), Environmental Resources Management (ERM) performed an onsite wetland and waterbody delineation within the proposed Pike County Solar Project, a proposed up to 100-megawatt solar photovoltaic facility in Pike County, Kentucky. (Project). The project area consists of approximately 1,543 acres located on the north side of US Highway 119, approximately 0.5 mile northeast of the unincorporated community of Meta, Pike County, Kentucky (Site; Project Boundary). The following report describes existing site conditions, methodologies, and findings associated with this site assessment.

ERM conducted an onsite wetland and waterbody delineation to identify possible wetlands and waterbodies, including potential streams and open waterbodies, within the Site. Twenty-one potential wetlands totaling 1.868 acres and 21 stream features totaling 27,428 linear feet were identified within the Site.

2. SITE LOCATION

The Site is located in Pike County, Kentucky, approximately 0.5 miles northeast of the city of Meta (Appendix A, Figure 1). The Site is approximately 1,543 acres of undeveloped forest, pasture land, and exposed rock on a partially reclaimed surface mine (Site; Appendix A; Figure 1 and 2). The western portion of the Site has been reclaimed but the eastern portion has not and consists of exposed rock and bare ground. The forested area is on the steep slopes that were not affected by the mining operation.

3. METHODOLOGY

Waters of the United States (WOTUS), including wetlands, are federally protected under Section 404 of the Clean Water Act (CWA). On August 29, 2023, the agencies issued a final rule to amend the January 2023 Rule, to conform the definition of "waters of the United States" to the Supreme Court's decision in *Sackett*. This conforming rule amends the provisions of the agencies' definition of "waters of the United States" that are invalid under the Supreme Court's interpretation of the CWA in the *Sackett* decision and became effective on September 8, 2023, upon publication in the Federal Register. The definition of a wetland is "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas*" (Code of Federal Regulations §230.3(t)).

Additionally, on April 12, 2023, a district court judge in North Dakota issued an order with 23 additional states, including Kentucky, enjoining the issuance of the January 2023 Rule and in these states the pre-2015 regulatory regime consistent with the decision of *Sackett vs U.S. Environmental Protection Agency*.

ERM delineated wetlands at the Site on August 12-14, 2024. All surveys were conducted in accordance with the three-parameter methodology outlined in the 1987 USACE *Wetlands Delineation Manual* (Manual), the 2012 *Regional Supplement to the Corps of Engineers Wetland*



Delineation Manual: Eastern Mountain and Piedmont, Version 2.0, and per recent guidance issued jointly by the U.S. Environmental Protection Agency and the USACE¹.

The three parameters required for identifying a jurisdictional wetland are as follows:

- The presence of hydrophytic vegetation - Hydrophytic vegetation is determined by the dominant species present at any given data point, where each species is assigned a plant indicator status as to its preference/tolerance for wetland conditions. Data points having dominant species that are greater than 50 percent facultative or wetter are considered to meet the hydrophytic vegetation criterion.
- The presence of hydrology - Each data point is evaluated for evidence of wetland hydrology or persistent saturation or inundation of soils. The Manual identifies both primary and secondary hydrologic indicators, and one primary indicator or two secondary indicators must be observed in order for the sample point to meet the hydrology criterion. Indicators include saturated soils in the upper 12 inches, inundation, water marks, drift lines, sediment deposits, drainage patterns, oxidized root channels in the upper 12 inches, water-stained leaves, local soil survey data, and others.
- The presence of hydric soils - Soil in each sample plot is sampled with a soil spade to a depth of at least 16 inches, or to the B horizon, whichever appears first. The delineator obtains a profile description and identifies hydric soil indicators based on soil texture(s) and soil color(s). Soil textures are determined by manual tactile sampling. Soil colors (in a moist condition) are compared to Munsell Soil-Color charts (2009 Edition, 2015 production year, Munsell Color, Grand Rapids, MI, USA) to determine hue, value, and chroma to determine if hydric characteristics are present.

An area is classified as a wetland only in instances where all three parameters exist under normal circumstances. If one or more criteria are absent, then the area is deemed upland.

To identify wetlands within the Site, the area was traversed on foot. Data points were taken within the Site to verify or refute the presence of wetland soils, vegetation, and hydrology. USACE wetland data forms were completed at each sample point. One corresponding upland community sample point was also taken for each wetland or wetland complex. If more than one type of wetland was observed within a larger wetland complex, the boundaries of the different types were identified, and separate USACE wetland data forms were completed for each type within the complex. Completed USACE Eastern Mountains and Piedmont Region wetland determination data forms are presented in Appendix C.

ERM utilized a Trimble R1 Submeter Global Positioning System receiver to obtain coordinates for the wetland data points, wetland boundaries, and waterbody boundaries during the field survey effort. This unit is capable of sub-meter accuracy (following post-processing and differential correction via a known base station) and allows the digital data to be incorporated into drawings for mapping/design purposes.

¹ EPA Current Definition of "Waters of the United States". 18 December 2023.
<https://www.epa.gov/wotus/current-implementation-waters-united-states>

4. RESULTS

The following sections present the results of the desktop analysis, and the wetland field surveys conducted on August 12-14, 2024.

5. EXISTING SITE CONDITIONS

Based on a review of aerial orthoimagery and field observations from the Site visit, pasture is the predominant land use within the surfaced stripe mined section of the Site and forested riverine habitats around the mined area. Online database research identified the mine, which occupies the limits of the Site, with Mine Safety and Health Administration (MSHA) Mine ID Number 1518015 and has ceased to operate and produce coal since mid-year 2020. The Surface Mining Information Service (SMIS) website search under permit numbers 8980881 and 8980882 and notes that the current status of the two permits as revoked for non-compliance.

The Site is in the Dissected Appalachian Plateau Level IV EPA Ecoregion. Topography consists of narrow ridges, deep coves, and narrow valleys and is mostly forested (Woods et. al 2002). Elevation ranges near the Site are from 1,000 to over 1,500 feet above mean sea level (AMSL). The Site being on a reclaimed surface strip mine the topography within the Site has been altered to an undulating plateau surrounded by deep coves and narrow valleys.

The Site is located in two watersheds, Raccoon Creek - Johns Creek sub watershed (Hydrologic Unit Code [HUC] 050702030302) and the Brushy Creek sub watershed (HUC 050702010603). The northern half of the Project area is drained by the Wolfpen Branch (northwest), Pigionroost Branch (northcentral), and Left Fork Brushy Fork (northeastern), and their unnamed tributaries which ultimately drains to Brushy Creek. The southern portion of the Project area is drained by Smith Fork (southeastern), Cabin Knoll Branch (southcentral), and unnamed tributary (southeastern) which ultimately drains into the Johns Creek (USGS 2024). Natural surface water runoff on the Site has been modified by the surface mine operation, it generally drains to constructed drainage features in the mined areas that flow to native drainage features throughout the Site as shown in Figure 3. No waterways are present within the Site boundary that would require a special use or cold-water habitat designation. (e.g., Outstanding State Resource Waters, Coldwater Aquatic Habitats, or other Special Use Waters) from the Kentucky Division of Water (KDOW) (KDOW, 2024).

Soil series within the Site were identified using the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Martin County soil survey. Soils within the Site consist primarily of Fiveblock, Fairpoint, and Kaymine soils, 30 to 80 percent slopes, stony and Fiveblock, Fairpoint, and Kaymine soils, 6 to 30 percent slopes, stony. (USDA 2019; Appendix A; Figure 3; Tables 1 and 2).

TABLE 1 SUMMARY OF SOILS WITHIN THE SITE

Map Unit Symbol	Map Unit Name	Acres within Site	Percentage of Site	Hydric?
HpC	Hayter-Potomac-Stokly complex, 2 to 15 percent slopes	6.9	0.40	No
MaF	Marrowbone-Clifftop-Matewan complex, 35 to 75 percent slopes, very rocky	73	4.70	No
MmF	Marrowbone-Feds creek-Myra complex, 30 to 80 percent slopes, very stony	32	2.10	No
MyB	Myra very channery silt loam, 0 to 6 percent slopes	1	0.10	No
MyF	Myra very channery silt loam, 30 to 70 percent slopes, stony	1,179	76.40	No
uAdrF	Anthropotic Udorthents-Urban land-Rock outcrop complex, 0 to 80 percent slopes, benched	2	0.10	No
uCskF	Cloverlick-Shelocta-Kimper complex, 20 to 80 percent slopes, very stony	82	5.30	No
uHfsF	Handshoe-Feds creek-Shelocta complex, 30 to 80 percent slopes, very stony	167	15.9	No
Total Acreage		1,543		

Based on a review of the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer, no area within the Site is located within 100-year floodplain (Zone A). The Site is located within an area designated as Zone X, Areal of Minimal Flood Hazard. A copy of the FEMA FIRMs in connection with the Site is depicted as Figure 4 in Attachment A.

A review of U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data indicates approximately 4.5 acres of NWI Riverine (R4SBC & R5UBH) features and approximately 0.6 acres of NWI Freshwater Emergent Wetland (PEM1Cx) are located within the Site boundaries (Appendix A; Figure 5). USGS National Hydrology Dataset (NHD) mapping indicates approximately 26,126 linear feet of potential stream features with 2,483 linear feet of "Perennial Stream", 23,419 linear feet of "Intermittent Stream", and 225 linear feet of "Artificial Ditch" NHD features within the Site (Appendix A; Figure 5).

In anticipation for the collection of data during the site visit, climatic conditions for the Site were obtained utilizing the USACE and EPA Antecedent Precipitation Tool (APT) which compares antecedent rainfall conditions for a given location to the range of normal rainfall conditions that occurred during the preceding 30 years to determine normal climatic conditions. The APT indicated that drier than normal conditions were present during the 2024 delineation effort. These conditions were taken into consideration during the delineation effort. A copy of the APT results is included in Appendix B.



Based on a review of aerial imagery obtained from Google Earth, the Site historically consisted of undeveloped forested areas up till 1996. Google Earth aerial imagery dated 2004 depicts this area as in the process of being stripped mined (Google Earth 2024).

5.1 WETLANDS

During the onsite delineation, ERM identified 21 wetlands totaling 1.868 acres within the Site, all were classified as palustrine emergent (PEM) wetlands (Tables 3 and 4). All of the wetlands identified were isolated and located within the previously mined area. All the wetland features had similar plant species, were located in depression / concave areas, and had disturbed soils where soil pits ranged from 3 to 13 inches from the surface before rock and gravel were encountered. Representative photographs of the wetlands are presented in Appendix C.

Based on ERM's professional opinion, all 21 wetlands within the Site are classified as non-jurisdictional features, as they were observed isolated and not adjacent to relatively permanent waters (RPWs). Preliminary jurisdictional opinion is based off the current definition of WOTUS for the State of Kentucky at the completion of this report, Pre-2015 Regulatory Regime consistent with the decision of *Sackett v. U.S. Environmental Protection Agency*. Table 2 lists each wetland by a unique Feature ID, Cowardin classification, feature acreage, and preliminary jurisdictional opinion. The delineated wetland features are shown in Appendix A, Figure 6. A photographic log of representative wetland types is presented in Appendix C. Additional details and justifications for the classification of the wetlands can be found on the USACE Wetland Determination Data Forms, provided in Appendix D.

TABLE 2 WETLANDS IDENTIFIED WITHIN THE SITE

Feature	Cowardin Classification ¹	Area (Acres) ²	Preliminary Jurisdictional Opinion ³
Wetland 1	PEM	0.096	Potentially Non-Jurisdictional
Wetland 2a	PEM	0.018	Potentially Non-Jurisdictional
Wetland 2b	PEM	0.014	Potentially Non-Jurisdictional
Wetland 2c	PEM	0.006	Potentially Non-Jurisdictional
Wetland 3a	PEM	0.042	Potentially Non-Jurisdictional
Wetland 3b	PEM	0.130	Potentially Non-Jurisdictional
Wetland 3c	PEM	0.188	Potentially Non-Jurisdictional
Wetland 4	PEM	0.233	Potentially Non-Jurisdictional
Wetland 5	PEM	0.134	Potentially Non-Jurisdictional
Wetland 6	PEM	0.061	Potentially Non-Jurisdictional
Wetland 7	PEM	0.049	Potentially Non-Jurisdictional
Wetland 8	PEM	0.307	Potentially Non-Jurisdictional
Wetland 9	PEM	0.045	Potentially Non-Jurisdictional
Wetland 10	PEM	0.043	Potentially Non-Jurisdictional
Wetland 11	PEM	0.052	Potentially Non-Jurisdictional
Wetland 12	PEM	0.007	Potentially Non-Jurisdictional
Wetland 13	PEM	0.330	Potentially Non-Jurisdictional
Wetland 14	PEM	0.045	Potentially Non-Jurisdictional
Wetland 15	PEM	0.044	Potentially Non-Jurisdictional
Wetland 16	PEM	0.022	Potentially Non-Jurisdictional
Wetland 17	PEM	0.002	Potentially Non-Jurisdictional
	Total PEM	1.868	
Total		1.868	

¹ Classifications are based on ERM's professional judgment of actual field conditions.

² Feature size within Site

³ Jurisdictional determinations and boundaries when presented are preliminary and subject to final verification by the U.S. Army Corps of Engineers (USACE) and Kentucky Division of Water (KDOW).

5.2 WATERS

5.2.1 STREAMS

ERM identified 21 stream features totaling 27,428 linear feet which include 4 perennial stream segments totaling 4,760 linear feet, 4 intermittent stream segments totaling approximately 6,630 linear feet, and 13 ephemeral / ditch stream segments totaling approximately 16,038 linear feet



(Figure 7). Portions of the same stream feature were identified with varying flow classes. Photographs of the stream features are presented in Appendix C

The identified perennial and intermittent streams are considered potentially jurisdictional features, classified as RPWs. The remaining features, classified as ephemeral stream and ditch features, are not considered RPWs and would most likely not be considered jurisdictional. Table 3 lists each stream by a unique feature name, hydrologic flow regime, length in linear feet, and preliminary jurisdictional opinion.

TABLE 3 STREAMS IDENTIFIED WITHIN THE SITE

Feature ID	Flow Regime	Length (Linear feet)⁷	Preliminary Jurisdictional Opinion⁸	Comments
Stream 1	Ephemeral	786	Potentially Non-Jurisdictional	Ditch
Stream 1	Ephemeral	2,035	Potentially Non-Jurisdictional	
Stream 2	Ephemeral	272	Potentially Non-Jurisdictional	
Stream 2	Ephemeral	319	Potentially Non-Jurisdictional	Ditch
Stream 3	Perennial	933	Potentially Jurisdictional	
Stream 4	Perennial	1534	Potentially Jurisdictional	
Stream 4	Intermittent	392	Potentially Jurisdictional	
Stream 5	Intermittent	612	Potentially Jurisdictional	
Stream 5	Ephemeral	2,830	Potentially Non-Jurisdictional	
Stream 6	Ephemeral	3,086	Potentially Non-Jurisdictional	
Stream 6	Intermittent	1,790	Potentially Jurisdictional	
Stream 7	Intermittent	3,836	Potentially Jurisdictional	
Stream 8	Ephemeral	1,019	Potentially Non-Jurisdictional	Ditch
Stream 9	Perennial	778	Potentially Non-Jurisdictional	
Stream 10	Ephemeral	1,027	Potentially Non-Jurisdictional	Ditch
Stream 11	Ephemeral	2,439	Potentially Non-Jurisdictional	
Stream 11	Ephemeral	400	Potentially Non-Jurisdictional	Ditch
Stream 12	Ephemeral	848	Potentially Non-Jurisdictional	Ditch
Stream 13	Ephemeral	948	Potentially Non-Jurisdictional	Ditch
Stream 14	Ephemeral	27	Potentially Non-Jurisdictional	Ditch
Stream 15	Perennial	1514	Potentially Jurisdictional	
	Total Ephemeral	16,038		
	Total Intermittent	6,630		
	Total Perennial	4,760		
	Total	27,428		

⁷ Feature size within Site

⁸ Jurisdictional determinations and boundaries when presented are preliminary based on ERM Professional Opinion and subject to final verification by the USACE and KDOW



5.2.2 OPEN WATERBODIES

Three open water features totaling 3.14 acres were identified within the Site. Open water 1 was observed as an excavated pit surrounded on three sides by a mining high wall, an un-excavated exposed wall striped of vegetation as the result of historic mining processes, considered potentially non-jurisdictional. The two remaining open water features (Open water 2 and 3) are located in the eastern portion of the Site, appeared to be man-made associated with the historical mine, and would be considered potentially non-jurisdictional. Table 3 summarizes each delineated open waterbody by a unique feature name, field determined Cowardin class, acreage, and preliminary jurisdictional opinion. Photographs of the delineated waterbodies are presented in Appendix C.

TABLE 3 OPEN WATERBODIES IDENTIFIED WITHIN THE SITE

Feature ID	Cowardin Classificaion¹	Area (Acres)²	Preliminary Jurisdictional Opinion³
Open Water 1	PUB	2.08	Non-Jurisdictional
Open Water 2	PUB	0.52	Non-Jurisdictional
Open Water 3	PUB	0.53	Non-Jurisdictional
Total		3.14	

6. CONCLUSION

ERM conducted environmental field surveys on August 12 through August 14, 2024, to identify wetlands within the Pike County Solar Project survey boundary in Pike County, Kentucky. Twenty-one potential wetlands totaling 1.868 acres, 21 streams totaling 27,428 linear feet, and 3 open waterbody features totaling 3.14 were identified within the Site.

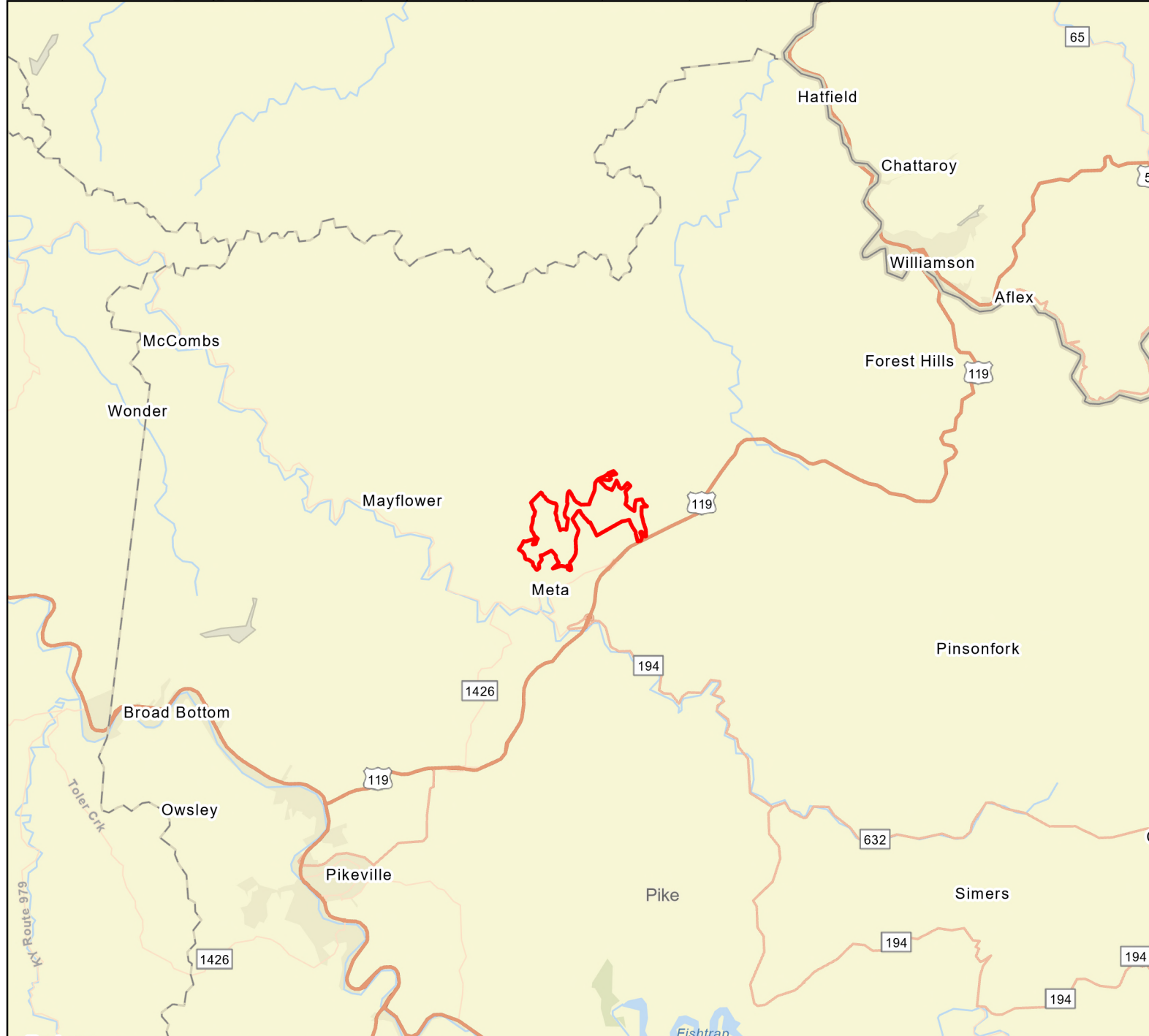
Although these findings are based upon a survey utilizing USACE-approved protocols and current regulatory guidance, the USACE must make the official determinations on the presence or absence of jurisdictional WOTUS on Site through the jurisdictional determination process.

7. REFERENCES

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APPENDIX A FIGURES



Legend
 Project Boundary

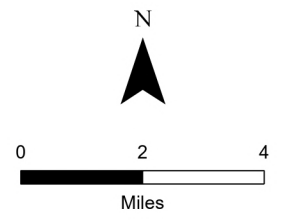
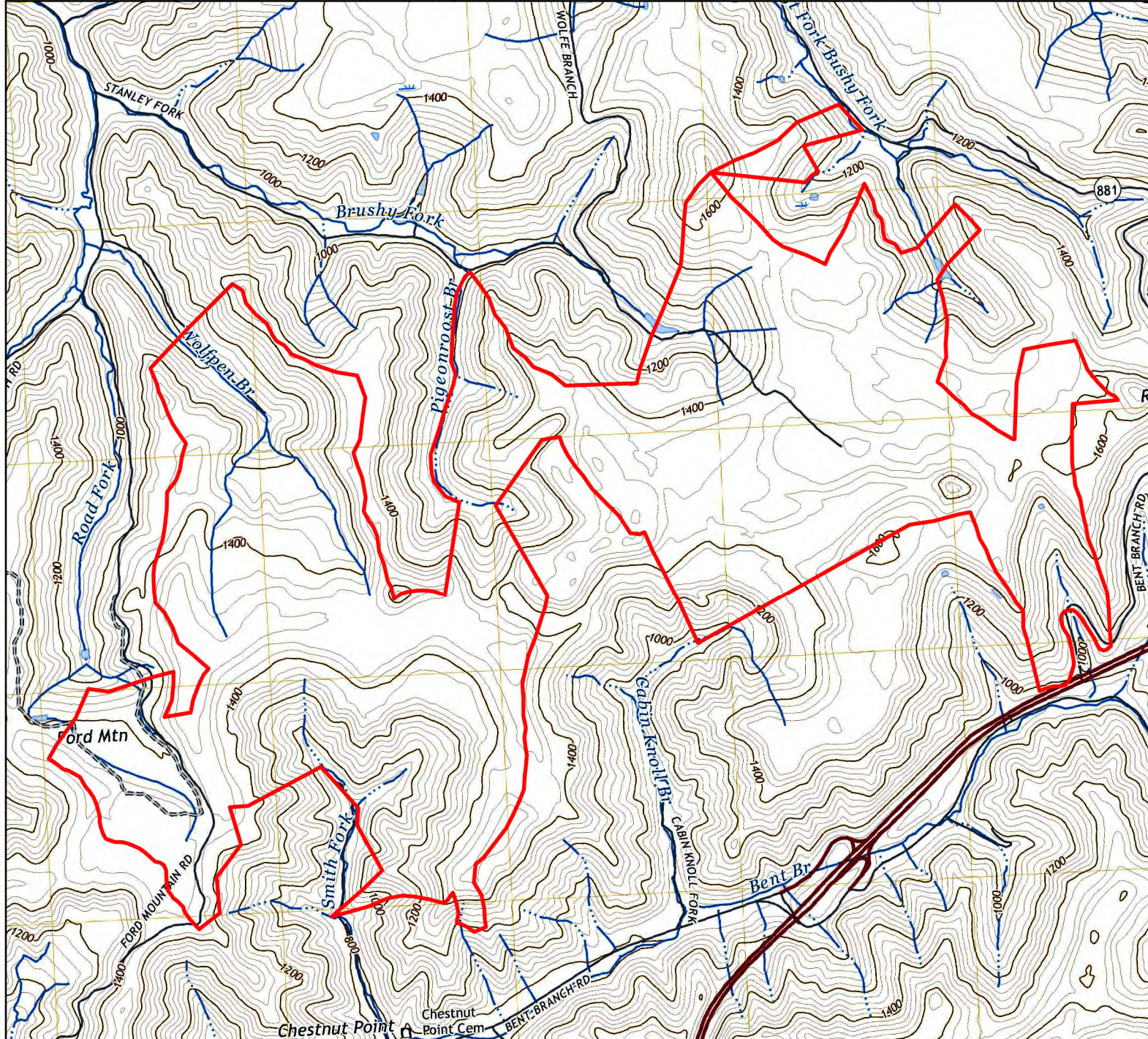


Figure 1
Site Location Map
Pike County Solar Project
Pike County Solar Project, LLC
Pike County, Kentucky





Legend
 Project Boundary

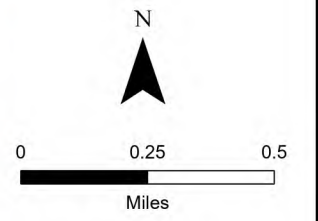
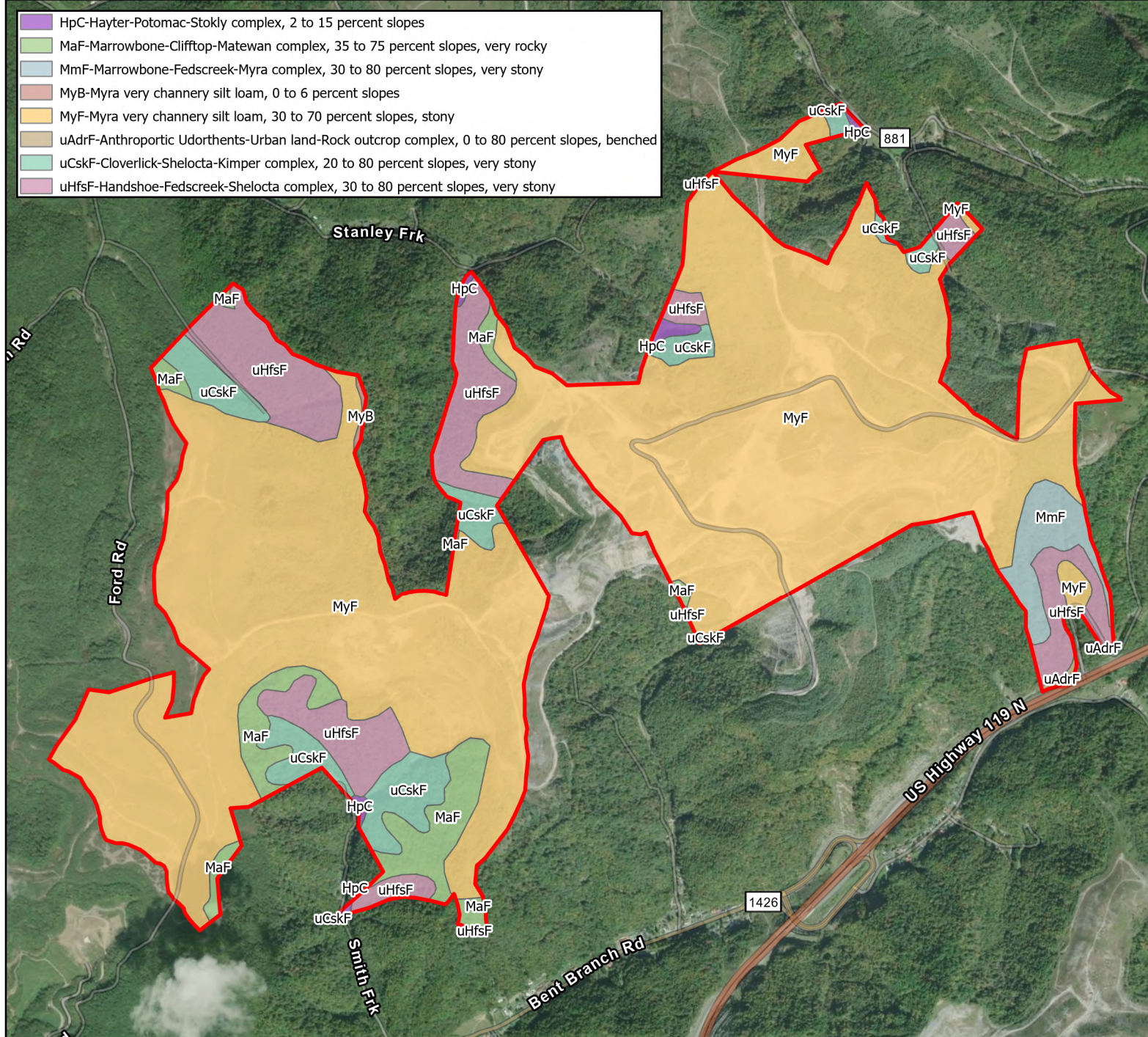


Figure 2
Topographic Map
 Pike County Solar Project
 Pike County Solar Project, LLC
 Pike County, Kentucky





- HpC-Hayter-Potomac-Stokly complex, 2 to 15 percent slopes
- MaF-Marrowbone-Cliff-top-Matewan complex, 35 to 75 percent slopes, very rocky
- MmF-Marrowbone-Feds-creek-Myra complex, 30 to 80 percent slopes, very stony
- MyB-Myra very channery silt loam, 0 to 6 percent slopes
- MyF-Myra very channery silt loam, 30 to 70 percent slopes, stony
- uAdrF-Anthroporic Udorhents-Urban land-Rock outcrop complex, 0 to 80 percent slopes, benched
- uCskF-Cloverlick-Shelocta-Kimper complex, 20 to 80 percent slopes, very stony
- uHfsF-Handshoe-Feds-creek-Shelocta complex, 30 to 80 percent slopes, very stony



Legend
 Project Boundary

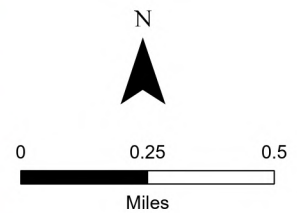


Figure 3
Soils Map
 Pike County Solar Project
 Pike County Solar Project, LLC
 Pike County, Kentucky





- Legend**
- Project Boundary
 - National Hydrography Dataset
 - National Wetland Inventory
 - Freshwater Emergent Wetland
 - Freshwater Pond
 - Riverine

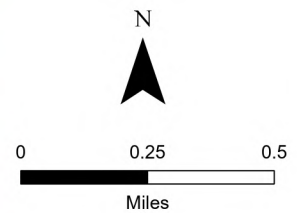
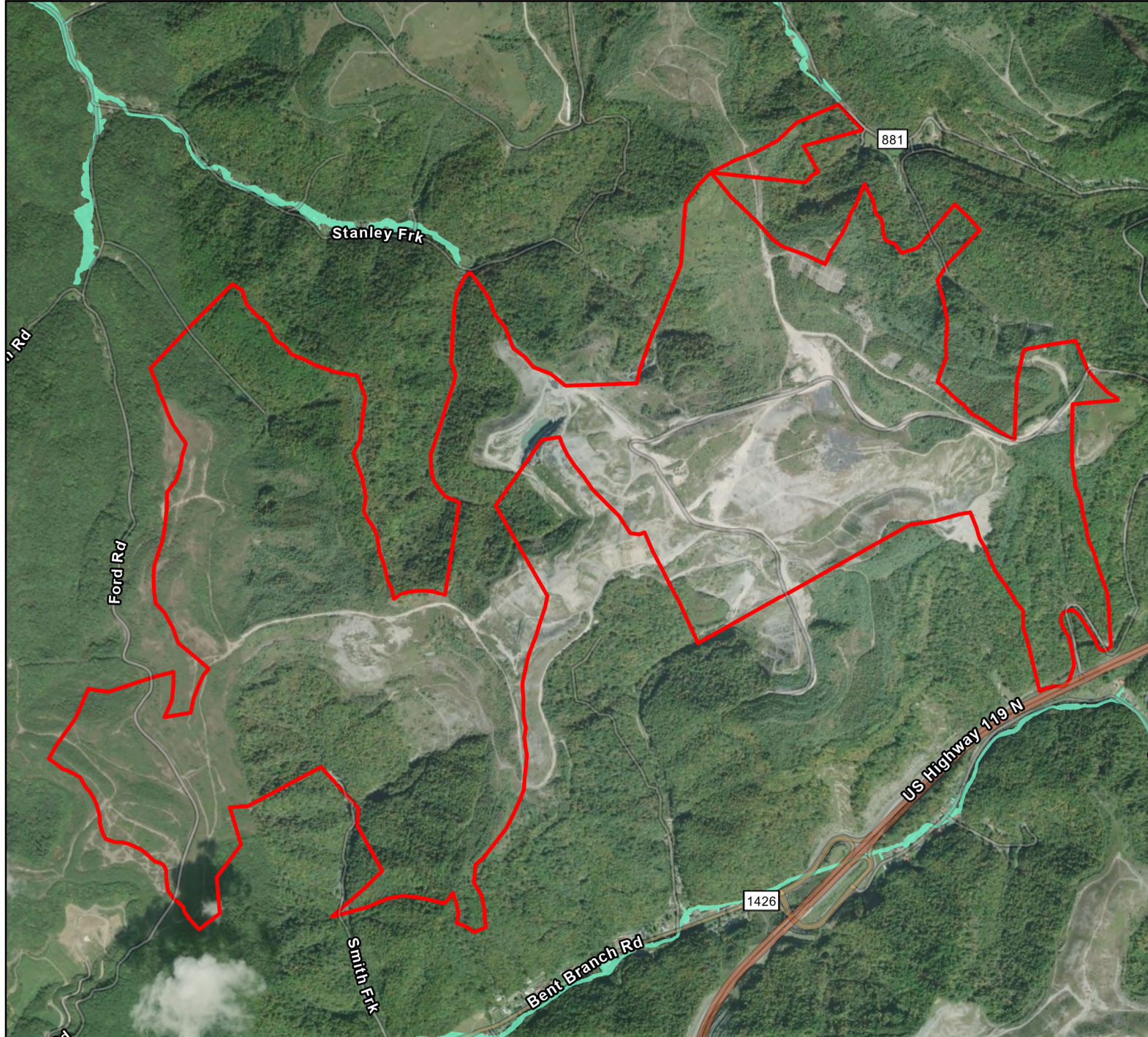




Figure 4
NWI and NHD Map
 Pike County Solar Project
 Pike County Solar Project, LLC
 Pike County, Kentucky





Legend

-  Project Boundary
-  Zone A (1% Annual Chance of Flood)

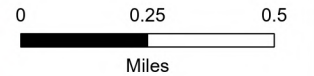
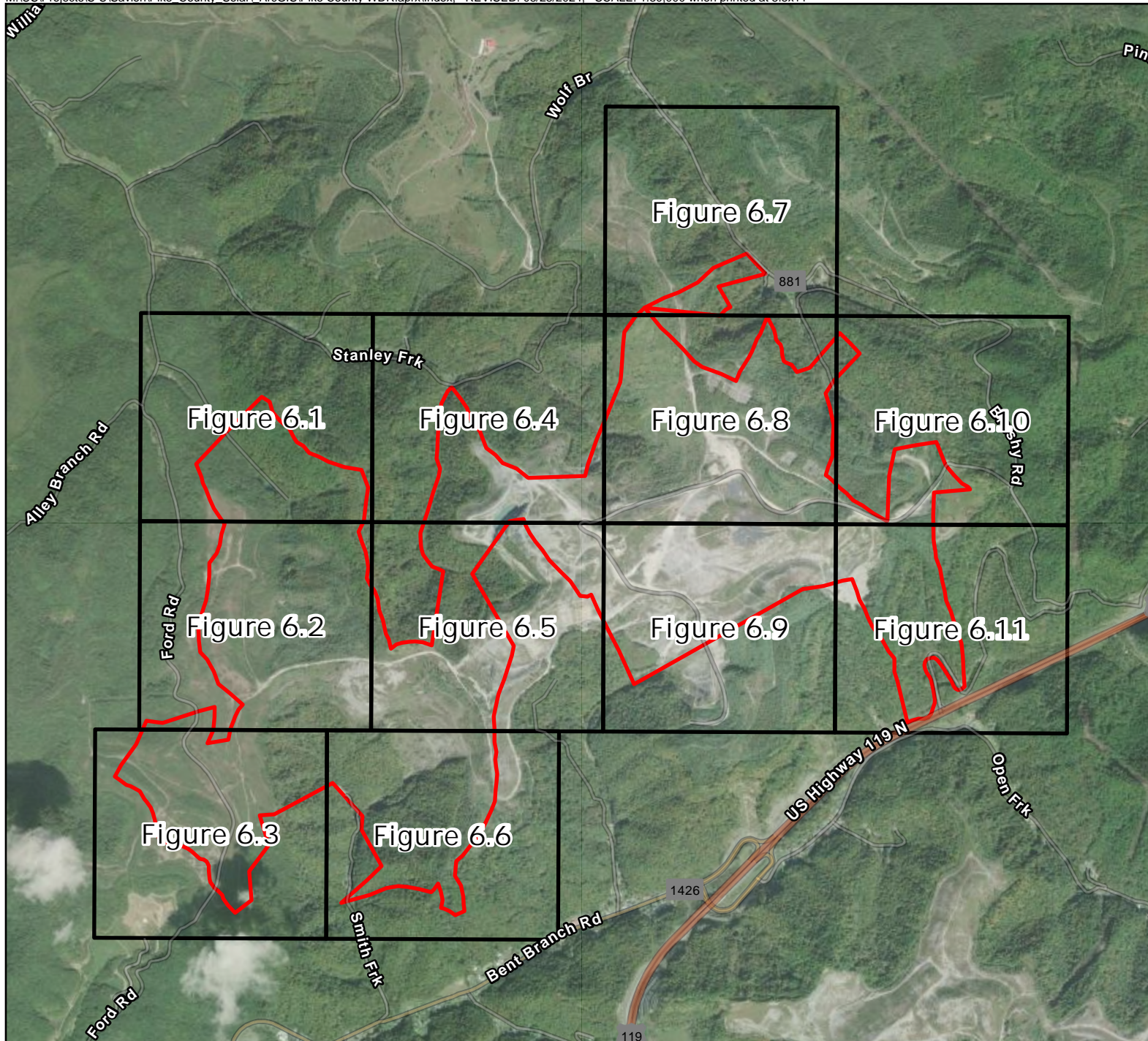


Figure 5
FEMA Flood Hazard Map
 Pike County Solar Project
 Pike County Solar Project, LLC
 Pike County, Kentucky





Legend

- Project Boundary
- Index

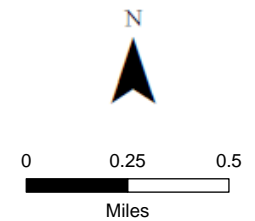


Figure 6
Wetland Delineation
Index Map
 Pike County Solar Project
 Pike County Solar Project, LLC
 Pike County, Kentucky



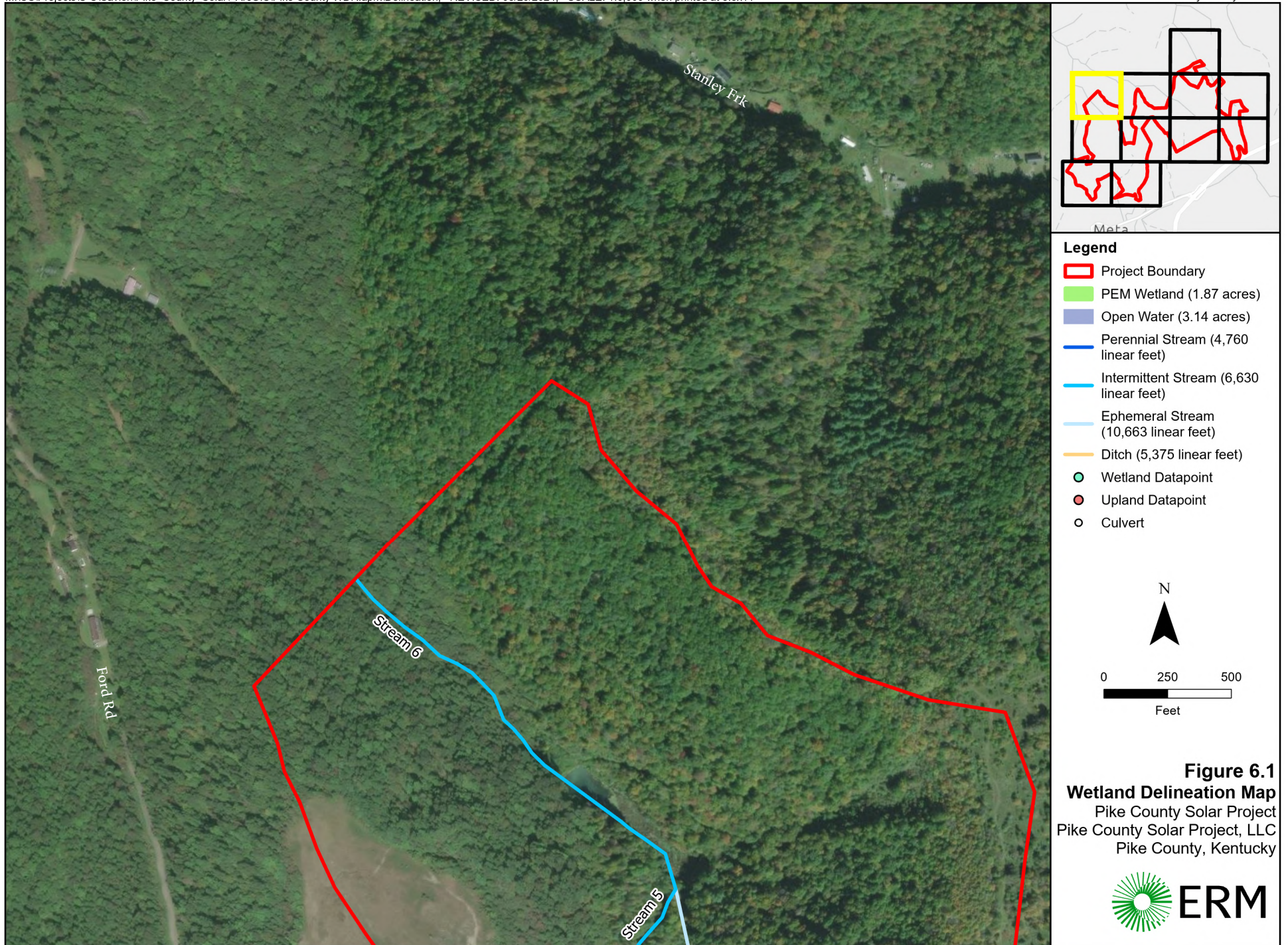


Figure 6.1
Wetland Delineation Map
Pike County Solar Project
Pike County Solar Project, LLC
Pike County, Kentucky



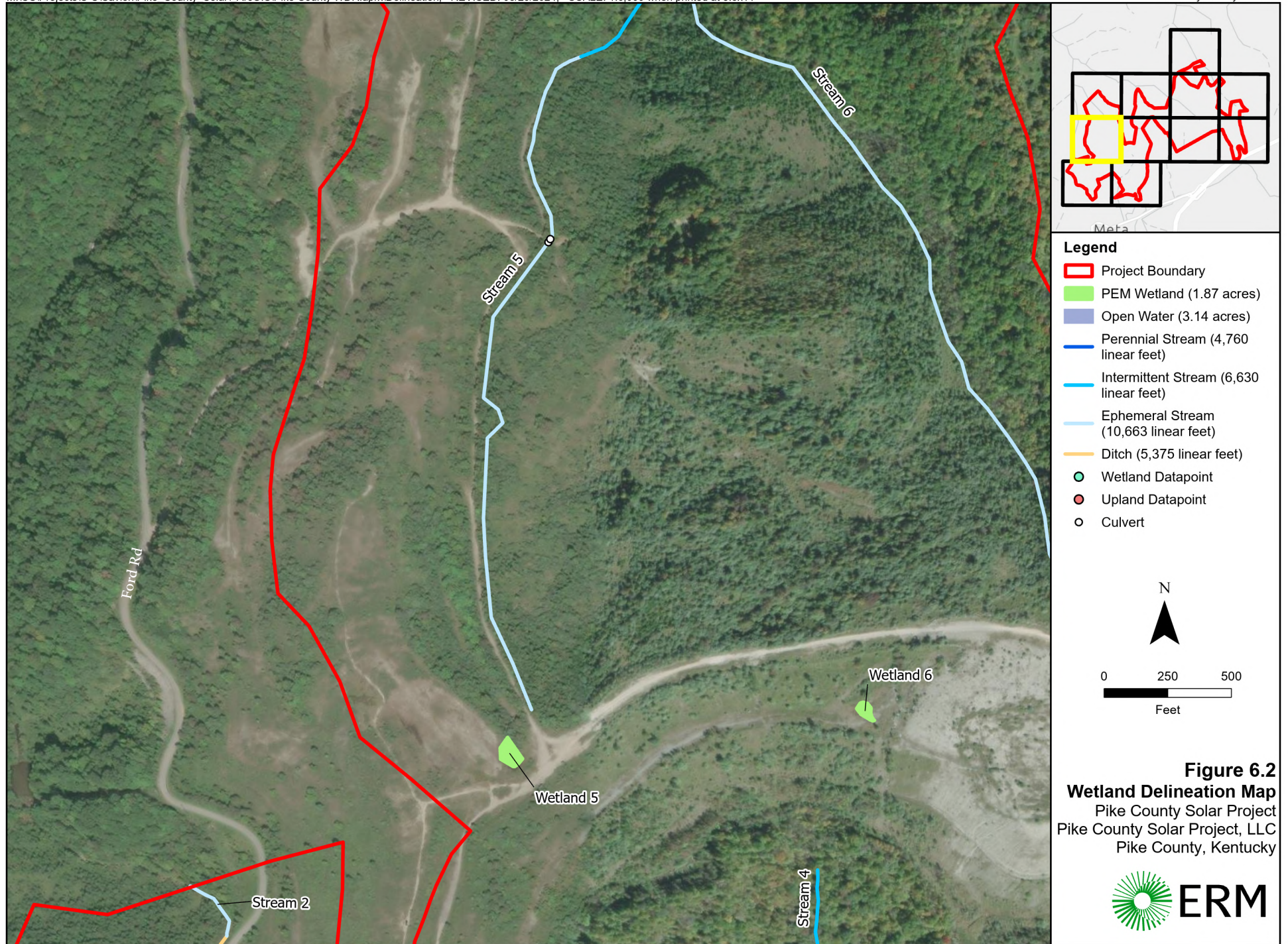
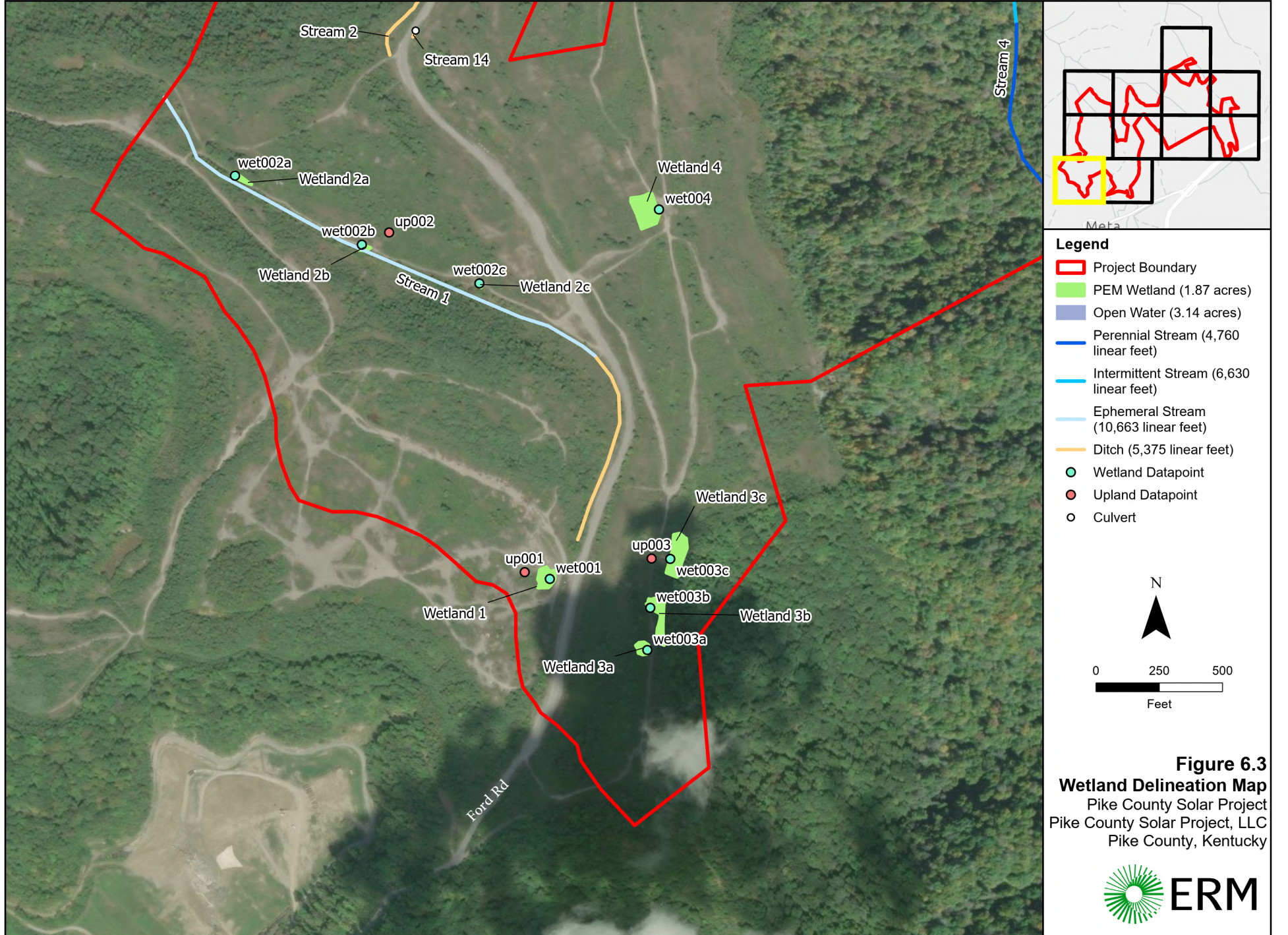
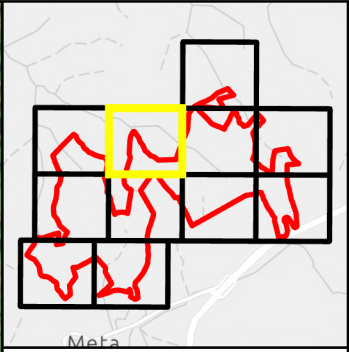


Figure 6.2
Wetland Delineation Map
Pike County Solar Project
Pike County Solar Project, LLC
Pike County, Kentucky







- Legend**
- Project Boundary
 - PEM Wetland (1.87 acres)
 - Open Water (3.14 acres)
 - Perennial Stream (4,760 linear feet)
 - Intermittent Stream (6,630 linear feet)
 - Ephemeral Stream (10,663 linear feet)
 - Ditch (5,375 linear feet)
 - Wetland Datapoint
 - Upland Datapoint
 - Culvert

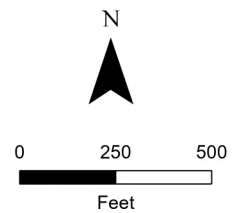
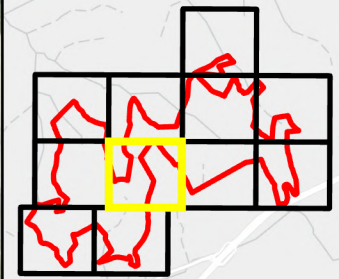


Figure 6.4
Wetland Delineation Map
Pike County Solar Project
Pike County Solar Project, LLC
Pike County, Kentucky





- Legend**
- ▭ Project Boundary
 - ▭ PEM Wetland (1.87 acres)
 - ▭ Open Water (3.14 acres)
 - Perennial Stream (4,760 linear feet)
 - Intermittent Stream (6,630 linear feet)
 - Ephemeral Stream (10,663 linear feet)
 - Ditch (5,375 linear feet)
 - Wetland Datapoint
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 - Culvert

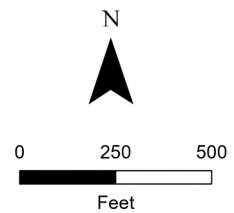
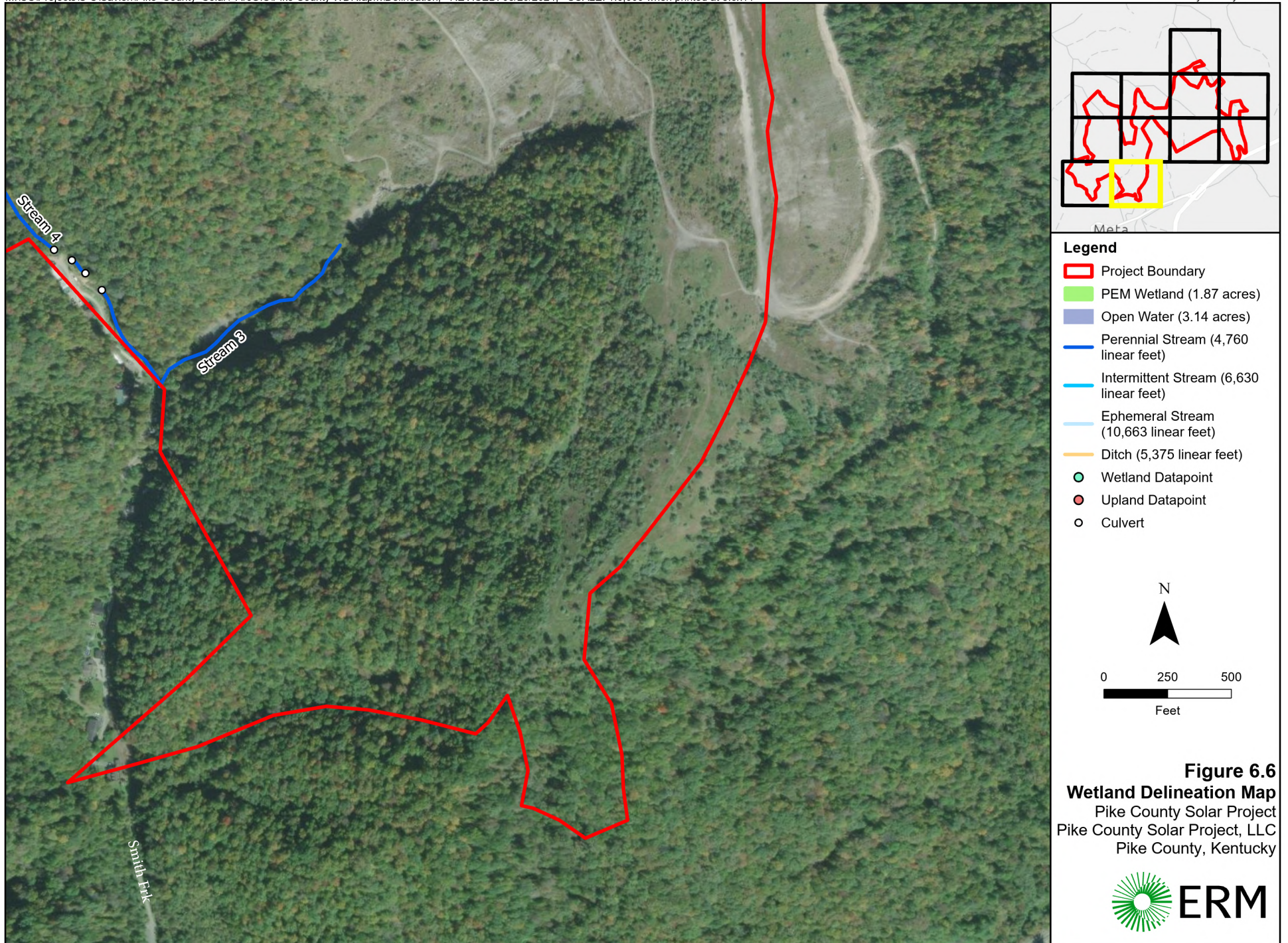


Figure 6.5
Wetland Delineation Map
 Pike County Solar Project
 Pike County Solar Project, LLC
 Pike County, Kentucky





- Legend**
- Project Boundary
 - PEM Wetland (1.87 acres)
 - Open Water (3.14 acres)
 - Perennial Stream (4,760 linear feet)
 - Intermittent Stream (6,630 linear feet)
 - Ephemeral Stream (10,663 linear feet)
 - Ditch (5,375 linear feet)
 - Wetland Datapoint
 - Upland Datapoint
 - Culvert

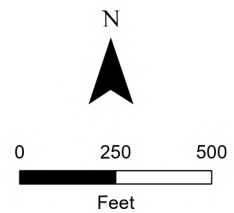
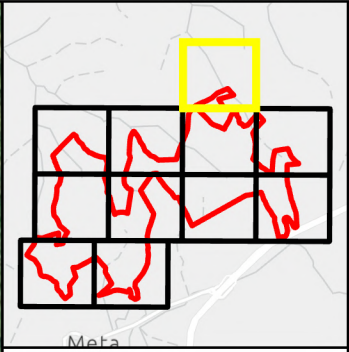


Figure 6.6
Wetland Delineation Map
Pike County Solar Project
Pike County Solar Project, LLC
Pike County, Kentucky





Legend











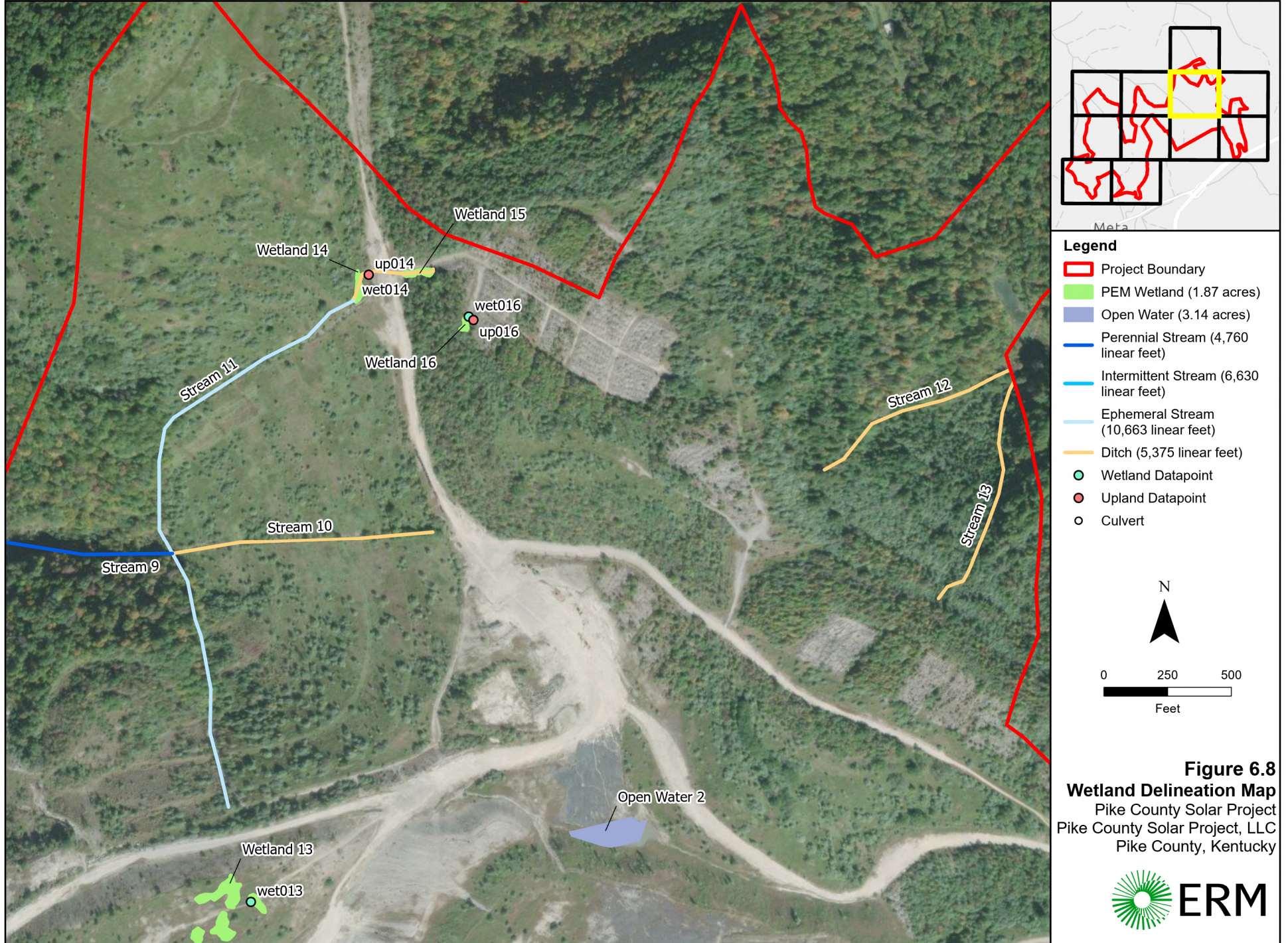
-  Project Boundary
-  PEM Wetland (1.87 acres)
-  Open Water (3.14 acres)
-  Perennial Stream (4,760 linear feet)
-  Intermittent Stream (6,630 linear feet)
-  Ephemeral Stream (10,663 linear feet)
-  Ditch (5,375 linear feet)
-  Wetland Datapoint
-  Upland Datapoint
-  Culvert



Figure 6.7
Wetland Delineation Map
Pike County Solar Project
Pike County Solar Project, LLC
Pike County, Kentucky





- Legend**
- Project Boundary
 - PEM Wetland (1.87 acres)
 - Open Water (3.14 acres)
 - Perennial Stream (4,760 linear feet)
 - Intermittent Stream (6,630 linear feet)
 - Ephemeral Stream (10,663 linear feet)
 - Ditch (5,375 linear feet)
 - Wetland Datapoint
 - Upland Datapoint
 - Culvert

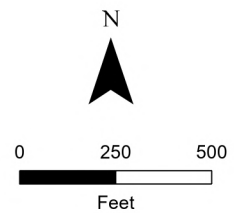
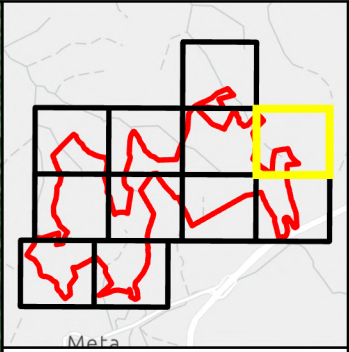












Figure 6.8
Wetland Delineation Map
Pike County Solar Project
Pike County Solar Project, LLC
Pike County, Kentucky







Legend

-  Project Boundary
-  PEM Wetland (1.87 acres)
-  Open Water (3.14 acres)
-  Perennial Stream (4,760 linear feet)
-  Intermittent Stream (6,630 linear feet)
-  Ephemeral Stream (10,663 linear feet)
-  Ditch (5,375 linear feet)
-  Wetland Datapoint
-  Upland Datapoint
-  Culvert

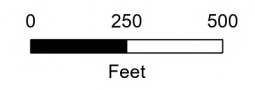
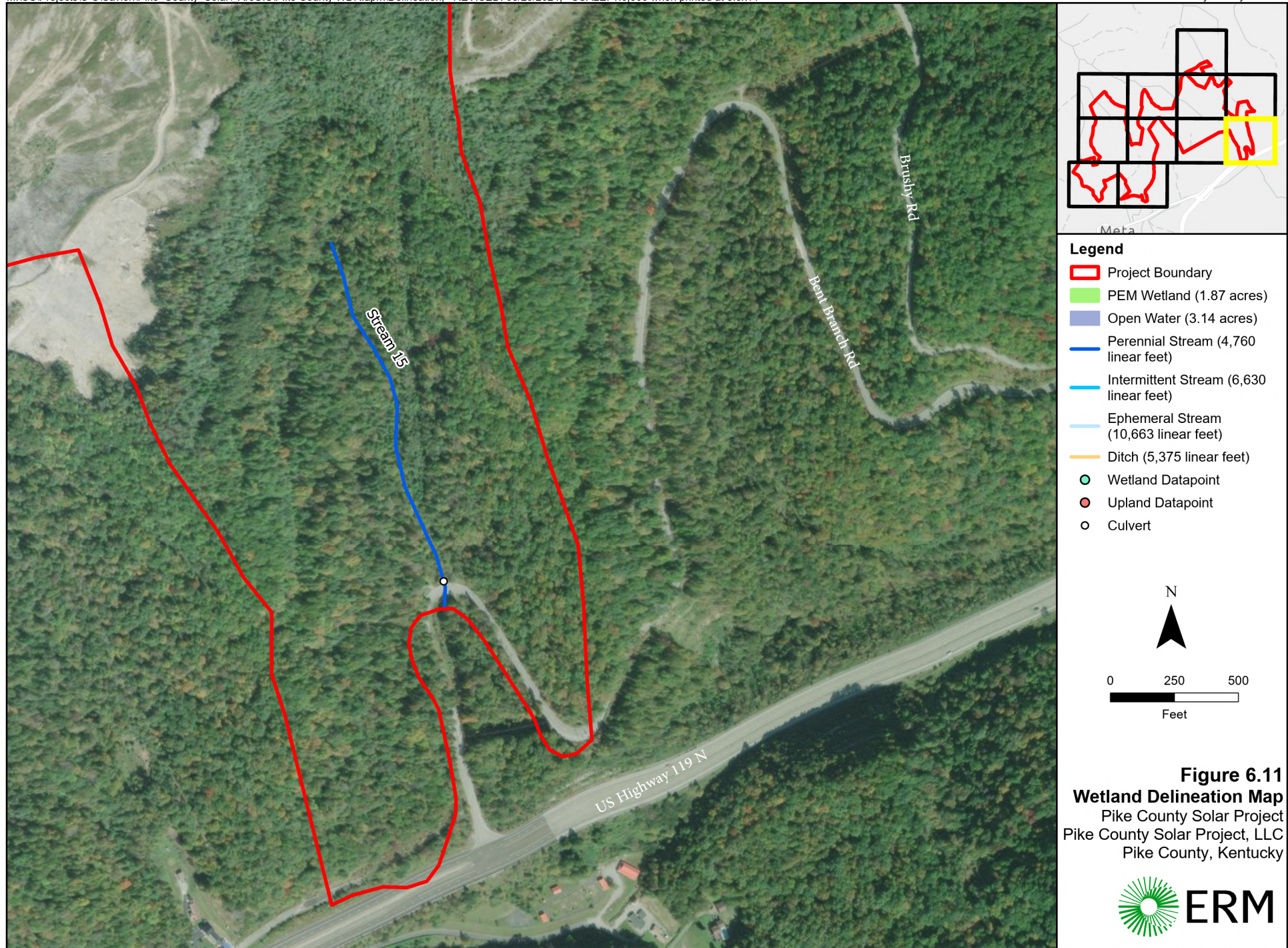


Figure 6.10
Wetland Delineation Map
Pike County Solar Project
Pike County Solar Project, LLC
Pike County, Kentucky

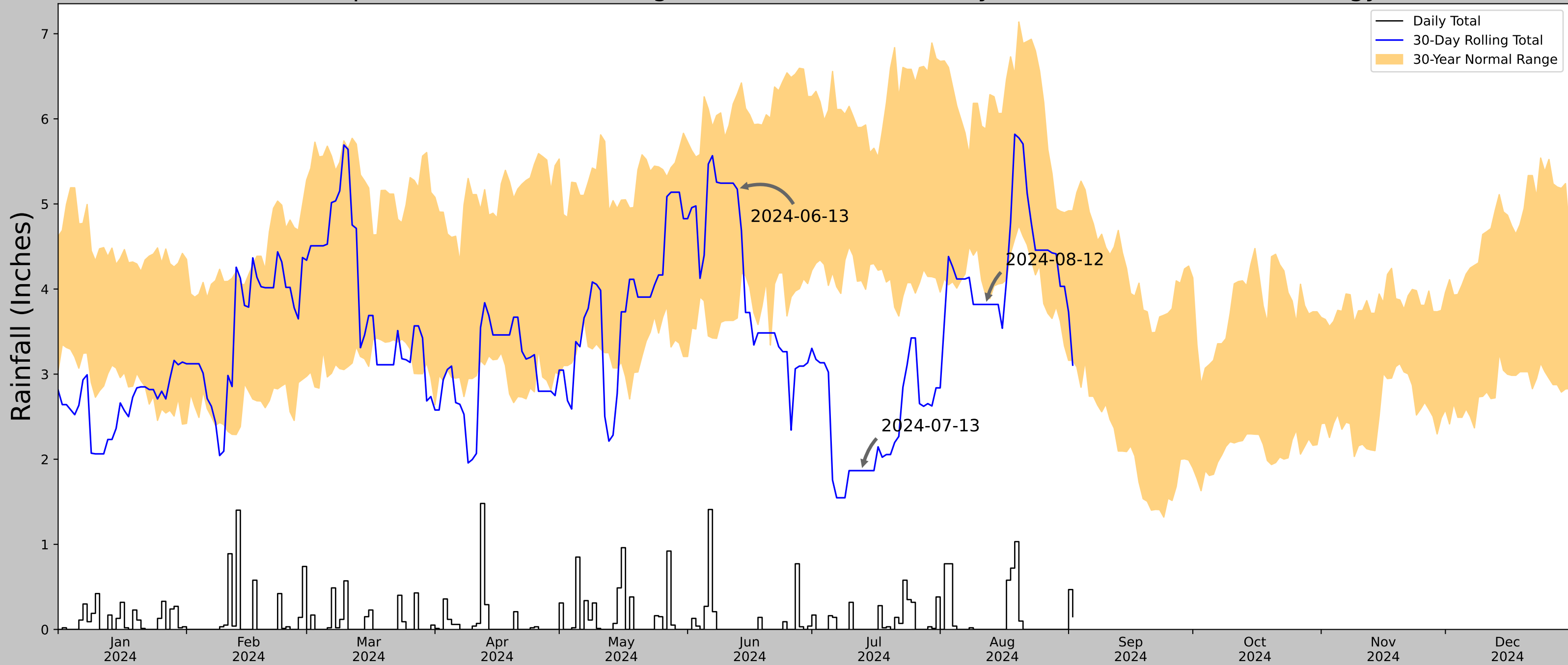






APPENDIX B APT RESULTS


Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.588711, -82.440882
Observation Date	2024-08-12
Elevation (ft)	1526.797
Drought Index (PDSI)	Mild drought (2024-07)
WebWIMP H ₂ O Balance	Dry Season


30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-08-12	3.930315	5.879921	3.818898	Dry	1	3	3
2024-07-13	4.1	5.898819	1.866142	Dry	1	2	2
2024-06-13	3.659843	6.28937	5.173229	Normal	2	1	2
Result							Drier than Normal - 7

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
WILLIAMSON	37.6781, -82.2892	687.992	10.346	838.805	13.333	8400	90
WILLIAMSON 2 NE	37.6878, -82.2561	1500.0	1.93	812.008	2.436	961	0
META 4 SE	37.5333, -82.3833	879.921	11.253	191.929	7.224	2	0
PIKEVILLE W Z L K	37.4833, -82.5167	685.039	18.339	2.953	8.307	71	0
INEZ 2 E	37.8725, -82.5194	709.974	18.397	21.982	8.683	1610	0
FISHTRAP LAKE	37.4333, -82.4167	717.848	18.299	29.856	8.781	287	0
PIKEVILLE KSP POST 9	37.5333, -82.5833	669.948	18.954	18.044	8.871	5	0
FEDSCREEK 1 SE	37.3922, -82.2583	850.066	19.826	162.074	12.135	14	0
PAINTSVILLE 1E	37.8175, -82.7883	629.921	28.918	58.071	14.692	2	0

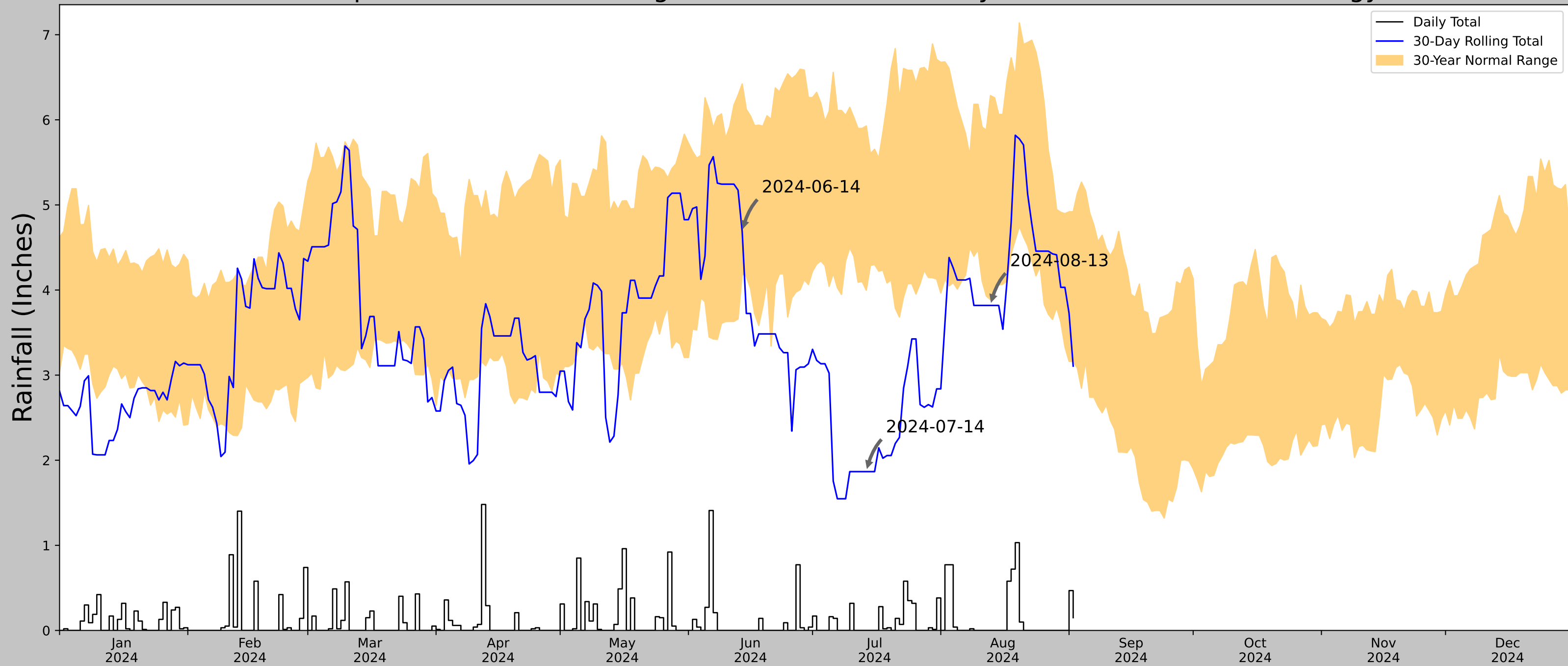


Figures and tables made by the
Antecedent Precipitation Tool
Version 2.0

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




Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.588711, -82.440882
Observation Date	2024-08-13
Elevation (ft)	1526.797
Drought Index (PDSI)	Mild drought (2024-07)
WebWIMP H ₂ O Balance	Dry Season


30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-08-13	3.886614	6.284252	3.818898	Dry	1	3	3
2024-07-14	3.996851	5.928347	1.866142	Dry	1	2	2
2024-06-14	4.190551	6.422047	4.68504	Normal	2	1	2
Result							Drier than Normal - 7

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
WILLIAMSON	37.6781, -82.2892	687.992	10.346	838.805	13.333	8400	90
WILLIAMSON 2 NE	37.6878, -82.2561	1500.0	1.93	812.008	2.436	961	0
META 4 SE	37.5333, -82.3833	879.921	11.253	191.929	7.224	2	0
PIKEVILLE W Z L K	37.4833, -82.5167	685.039	18.339	2.953	8.307	71	0
INEZ 2 E	37.8725, -82.5194	709.974	18.397	21.982	8.683	1610	0
FISHTRAP LAKE	37.4333, -82.4167	717.848	18.299	29.856	8.781	287	0
PIKEVILLE KSP POST 9	37.5333, -82.5833	669.948	18.954	18.044	8.871	5	0
FEDSCREEK 1 SE	37.3922, -82.2583	850.066	19.826	162.074	12.135	14	0
PAINTSVILLE 1E	37.8175, -82.7883	629.921	28.918	58.071	14.692	2	0

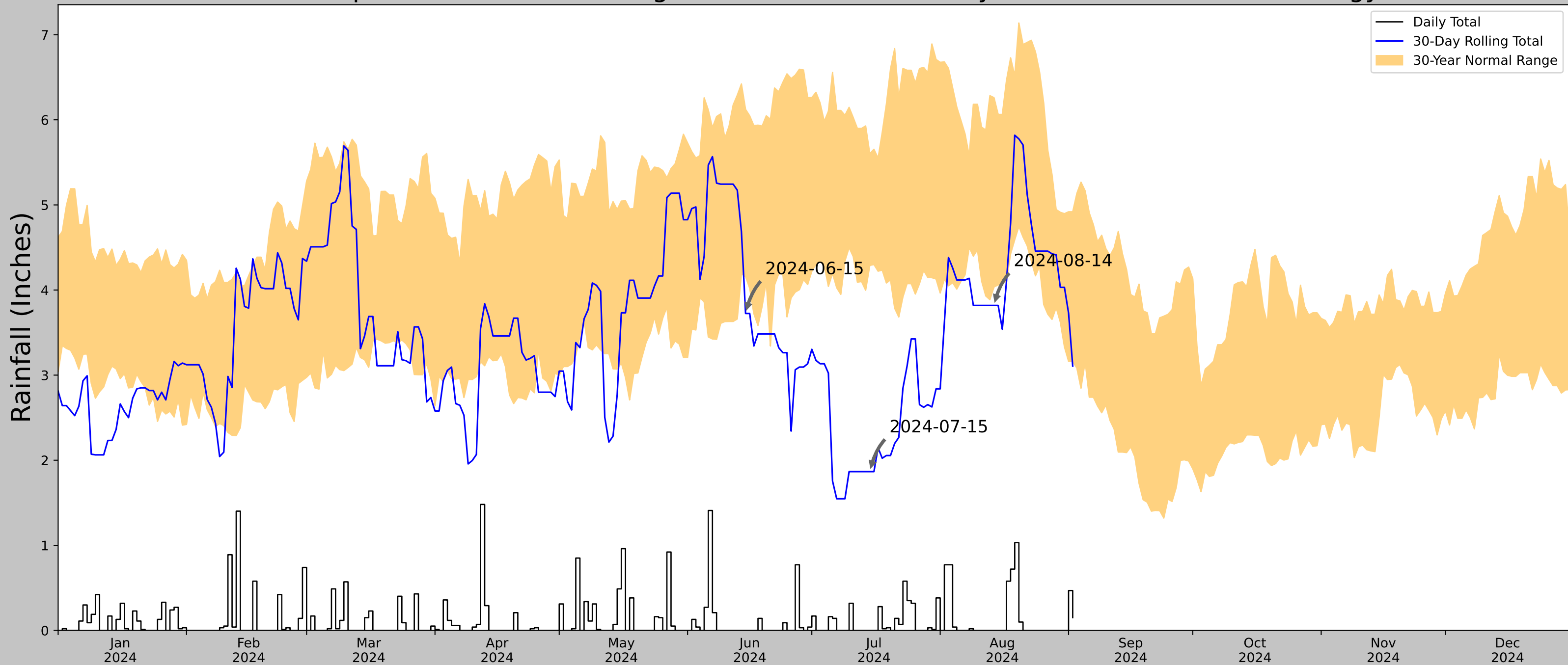


Figures and tables made by the
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Version 2.0

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




Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.588711, -82.440882
Observation Date	2024-08-14
Elevation (ft)	1526.797
Drought Index (PDSI)	Mild drought (2024-07)
WebWIMP H ₂ O Balance	Dry Season


30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-08-14	4.037008	6.260236	3.818898	Dry	1	3	3
2024-07-15	4.288583	5.601969	1.866142	Dry	1	2	2
2024-06-15	4.15748	6.122441	3.72441	Dry	1	1	1
Result							Drier than Normal - 6

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
WILLIAMSON	37.6781, -82.2892	687.992	10.346	838.805	13.333	8400	90
WILLIAMSON 2 NE	37.6878, -82.2561	1500.0	1.93	812.008	2.436	961	0
META 4 SE	37.5333, -82.3833	879.921	11.253	191.929	7.224	2	0
PIKEVILLE W Z L K	37.4833, -82.5167	685.039	18.339	2.953	8.307	71	0
INEZ 2 E	37.8725, -82.5194	709.974	18.397	21.982	8.683	1610	0
FISHTRAP LAKE	37.4333, -82.4167	717.848	18.299	29.856	8.781	287	0
PIKEVILLE KSP POST 9	37.5333, -82.5833	669.948	18.954	18.044	8.871	5	0
FEDSCREEK 1 SE	37.3922, -82.2583	850.066	19.826	162.074	12.135	14	0
PAINTSVILLE 1E	37.8175, -82.7883	629.921	28.918	58.071	14.692	2	0



Figures and tables made by the
Antecedent Precipitation Tool
Version 2.0

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





APPENDIX C PHOTOLOG

CLIENT: Pike County Solar Project, LLC	SITE LOCATION: Pike County Solar Project, Pike County, Kentucky	PROJECT NO.: 0718089
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PHOTO NO. 1.	DATE 12 August 2024	
DIRECTION PHOTO TAKEN Looking northeast		
DESCRIPTION Open water 1		


PHOTO NO. 2.	DATE 12 August 2024	
DIRECTION PHOTO TAKEN Looking west		
DESCRIPTION Open water 2		

CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

<p>PHOTO NO. 3.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking south</p>		
<p>DESCRIPTION Open water 3</p>		


<p>PHOTO NO. 4.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking southwest</p>		
<p>DESCRIPTION Wetland 1</p>		

CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

<p>PHOTO NO. 5.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking southeast</p>		
<p>DESCRIPTION Wetland 2a</p>		

<p>PHOTO NO. 6.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking southeast</p>		
<p>DESCRIPTION Wetland 2b</p>		

CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

PHOTO NO. 7.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking west	
DESCRIPTION Wetland 2c	




PHOTO NO. 8.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking northwest	
DESCRIPTION Typical upland vegetation near wetland 2 complex	



CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

<p>PHOTO NO. 9.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking west</p>		
<p>DESCRIPTION Wetland 3a</p>		

<p>PHOTO NO. 10.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking west</p>		
<p>DESCRIPTION Wetland 3b</p>		

CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

PHOTO NO. 11.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking north	
DESCRIPTION Wetland 3c	




PHOTO NO. 12.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking west	
DESCRIPTION Typical upland vegetation around wetland 3c complex and in the reclaimed western section of the Site	




CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

<p>PHOTO NO. 13.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking north</p>		
<p>DESCRIPTION Wetland 4</p>		

<p>PHOTO NO. 14.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking northeast</p>		
<p>DESCRIPTION Wetland 5</p>		

CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

PHOTO NO. 15.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking southeast	
DESCRIPTION Wetland 6	



PHOTO NO. 16.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking southwest	
DESCRIPTION Wetland 7	



CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

PHOTO NO. 17.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking south	
DESCRIPTION Wetland 8	



PHOTO NO. 18.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking west	
DESCRIPTION Wetland 9 along Stream 8, a ditch / ephemeral stream.	



CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

PHOTO NO. 19.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking east	
DESCRIPTION Wetland 10	




PHOTO NO. 20.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking northeast	
DESCRIPTION Wetland 11	



CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089


<p>PHOTO NO. 21.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking northwest</p>		
<p>DESCRIPTION Wetland 12</p>		


<p>PHOTO NO. 22.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking west</p>		
<p>DESCRIPTION Wetland 13</p>		

CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

<p>PHOTO NO. 23.</p>	<p>DATE 12 August 2024</p>			
<p>DIRECTION PHOTO TAKEN Looking west</p>				
<p>DESCRIPTION Wetland 13</p>				

<p>PHOTO NO. 24.</p>	<p>DATE 12 August 2024</p>			
<p>DIRECTION PHOTO TAKEN Looking north</p>				
<p>DESCRIPTION Wetland 14. There is no picture of Wetland 15 but is similar to Wetlands 14 and 16</p>				

CLIENT: Pike County Solar Project, LLC	SITE LOCATION: Pike County Solar Project, Pike County, Kentucky	PROJECT NO.: 0718089
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PHOTO NO. 25.	DATE 12 August 2024	
DIRECTION PHOTO TAKEN Looking east		
DESCRIPTION Wetland 16		

PHOTO NO. 26.	DATE 12 August 2024	
DIRECTION PHOTO TAKEN Looking north		
DESCRIPTION Typical upland vegetation and landscape in the north central portion of the Site.		

CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

<p>PHOTO NO. 27.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking south</p>		
<p>DESCRIPTION Typical upland vegetation and landscape in the eastern portion of the Site.</p>		

<p>PHOTO NO. 28.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking downstream</p>		
<p>DESCRIPTION Stream 1 Ditch segment</p>		

CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

PHOTO NO. 29.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking downstream	
DESCRIPTION Stream 1 ephemeral segment	



PHOTO NO. 30.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking upstream	
DESCRIPTION Stream 2 Ditch segment	



CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

PHOTO NO. 31.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking upstream	
DESCRIPTION Stream 5 Ephemeral segment	



PHOTO NO. 32.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking downstream	
DESCRIPTION Stream 5 Ephemeral segment	



CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

PHOTO NO. 33.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking downstream	
DESCRIPTION Stream 6 Ephemeral segment	



PHOTO NO. 34.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking upstream	
DESCRIPTION Stream 8 Ditch segment	



CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

<p>PHOTO NO. 35.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking downstream</p>		
<p>DESCRIPTION Stream 10 Ditch segment</p>		

<p>PHOTO NO. 36.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking upstream</p>		
<p>DESCRIPTION Stream 11 Ditch segment</p>		

CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

<p>PHOTO NO. 37.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking downstream</p>		
<p>DESCRIPTION Stream 11 Ephemeral segment</p>		

<p>PHOTO NO. 38.</p>	<p>DATE 12 August 2024</p>	
<p>DIRECTION PHOTO TAKEN Looking downstream</p>		
<p>DESCRIPTION Stream 12 Ditch segment</p>		

CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

PHOTO NO. 39.	DATE 12 August 2024
DIRECTION PHOTO TAKEN Looking downstream	
DESCRIPTION Stream 13 Ditch segment	



PHOTO NO. 40.	DATE 13 August 2024
DIRECTION PHOTO TAKEN Looking upstream	
DESCRIPTION Stream 15 Ditch segment	



CLIENT: Pike County Solar Project, LLC

SITE LOCATION: Pike County Solar Project, Pike County, Kentucky

PROJECT NO.: 0718089

PHOTO NO. 41.	DATE 13 August 2024
DIRECTION PHOTO TAKEN Looking upstream	
DESCRIPTION Stream 4 Perennial section that is south of the Site boundary. Smith Fork	





APPENDIX D USACE DATA FORMS

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	<i>OMB Control #: 0710-0024, Exp:11/30/2024</i> <i>Requirement Control Symbol EXEMPT:</i> <i>(Authority: AR 335-15, paragraph 5-2a)</i>
--	---

Project/Site: Pike County Solar Project City/County: Pike Sampling Date: 08/12/2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: UP010

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 3

Subregion (LRR or MLRA): LRR N Lat: 37.595353 Long: -82.427272 Datum: NAD83

Soil Map Unit Name: MyF- Myra very channery silt loam, 30 to 70 percent slopes, stony NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 Upland point associated with Wetland 001. Soils have been significantly disturbed from past land use a surface coal mine.

HYDROLOGY

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

Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
--	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: UP010

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Plantanus occidentalis</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>
2. <u>Juglans nigra</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
	<u>15</u> =Total Cover		
50% of total cover: <u>8</u>	20% of total cover: <u>3</u>		

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lespedeza cuneata</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Lotus corniculatus</u>	<u>10</u>	<u>No</u>	<u>FACU</u>
3. <u>Solidago altissima</u>	<u>5</u>	<u>No</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	<u>75</u> =Total Cover		
50% of total cover: <u>38</u>	20% of total cover: <u>15</u>		

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>80</u>	x 4 = <u>320</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>90</u> (A)	<u>345</u> (B)
Prevalence Index = B/A = <u>3.83</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

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

SOIL

Sampling Point: UP010

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	2.5YR 4/2	55	10YR 4/6	54	C	M	Loamy/Clayey	Silt loam, gravel present

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 7

Hydric Soil Present? Yes No

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Two matrix colors.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pike County Solar Project City/County: Pike Sampling Date: 08/12/2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: UP009

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 3

Subregion (LRR or MLRA): LRR N Lat: 37.598409 Long: -82.422657 Datum: NAD83

Soil Map Unit Name: MyF- Myra very channery silt loam, 30 to 70 percent slopes, stony NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
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Remarks:
 Upland point associated with Wetland 002. Soils have been significantly disturbed from past land use a surface coal mine.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: UP009

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%; text-align:center;">Total % Cover of:</th> <th style="width:50%; text-align:center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>295</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.47</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>85</u> (A)	<u>295</u> (B)	Prevalence Index = B/A = <u>3.47</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>10</u>	x 2 = <u>20</u>																			
FAC species <u>25</u>	x 3 = <u>75</u>																			
FACU species <u>50</u>	x 4 = <u>200</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>85</u> (A)	<u>295</u> (B)																			
Prevalence Index = B/A = <u>3.47</u>																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Plantanus occidentalis</u>	<u>10</u>	Yes	FACW																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
_____ =Total Cover																				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																				
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Lespedeza cuneata</u>	<u>40</u>	Yes	FACU																	
2. <u>Andropogon virginicus</u>	<u>10</u>	No	FACU																	
3. <u>Solidago altissima</u>	<u>5</u>	No	FAC																	
4. <u>Arthraxon hispidus</u>	<u>20</u>	Yes	FAC																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
_____ =Total Cover																				
50% of total cover: <u>38</u> 20% of total cover: <u>15</u>																				
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ =Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>50</u>	x 4 = <u>200</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>85</u> (A)	<u>295</u> (B)
Prevalence Index = B/A = <u>3.47</u>	

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

Sampling Point: UP009

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 4/2	100					Loamy/Clayey	Silt loam, gravel present

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 7

Hydric Soil Present? Yes No

Remarks:
 Soils have been significantly disturbed from past land use a surface coal mine.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pike County Solar Project City/County: Pike Sampling Date: 08/12/2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: UP011

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Convex Slope (%): 3

Subregion (LRR or MLRA): LRR N Lat: 37.598697 Long: -82.424180 Datum: NAD83

Soil Map Unit Name: MyF- Myra very channery silt loam, 30 to 70 percent slopes, stony NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 Upland point associated with Wetland 003. Soils have been significantly disturbed from past land use a surface coal mine.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: UP011

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species <u>5</u>	x 5 = <u>25</u>
Column Totals: <u>25</u> (A)	<u>85</u> (B)
Prevalence Index = B/A = <u>3.40</u>	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Plantanus occidentalis</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

_____ =Total Cover
 50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lespedeza cuneata</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Centaurea stoebe</u>	<u>5</u>	<u>Yes</u>	<u>UPL</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

_____ =Total Cover
 50% of total cover: 8 20% of total cover: 3

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ =Total Cover
 50% of total cover: _____ 20% of total cover: _____

Hydrophytic Vegetation Present?

Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
 The was very little vegetation. The wetland was surrounded by a gravel lot.

SOIL

Sampling Point: UP011

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 7

Hydric Soil Present? Yes No

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. The area around the wetland is a gravel lot, and a soil sample could not be obtained.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pike County Solar Project City/County: Pike Sampling Date: 08/12/2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: UP014

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR N Lat: 37.603214 Long: -82.413568 Datum: NAD83

Soil Map Unit Name: MyF- Myra very channery silt loam, 30 to 70 percent slopes, stony NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
Upland point associated with Wetland 004. Soils have been significantly disturbed from past land use a surface coal mine.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: UP014

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>360</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>90</u> (A)	<u>360</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>10</u>	x 3 = <u>30</u>																			
FACU species <u>70</u>	x 4 = <u>280</u>																			
UPL species <u>10</u>	x 5 = <u>50</u>																			
Column Totals: <u>90</u> (A)	<u>360</u> (B)																			
Prevalence Index = B/A = <u>4.00</u>																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. _____	_____	_____	OBL	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Lespedeza cuneata</u>	60	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.																
2. <u>Daucus carota</u>	10	No	UPL																	
3. <u>Solidago altissima</u>	10	No	FACU																	
4. <u>Arthraxon hispidus</u>	10	No	FAC																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
90 =Total Cover																				
50% of total cover: <u>45</u> 20% of total cover: <u>18</u>																				
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				

Remarks: (Include photo numbers here or on a separate sheet.)
 The was very little vegetation. The wetland was surrounded by a gravel lot

SOIL

Sampling Point: UP014

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	2.5YR 4/3	100					Loamy/Clayey	Silt loam, gravel present

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 5

Hydric Soil Present? Yes No

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Struck rock at 5"

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pike County Solar Project City/County: Pike Sampling Date: 08/12/2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: UP016

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR N Lat: 37.602687 Long: -82.412173 Datum: NAD83

Soil Map Unit Name: MyF- Myra very channery silt loam, 30 to 70 percent slopes, stony NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	

Remarks:
 Upland point associated with Wetland 005. Soils have been significantly disturbed from past land use a surface coal mine.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: UP016

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>85</u>	x 4 = <u>340</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>95</u> (A)	<u>370</u> (B)
Prevalence Index = B/A = <u>3.89</u>	

Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lespedeza cuneata</u>	<u>75</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Eupatorium serotinum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
3. <u>Solidago altissima</u>	<u>10</u>	<u>No</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

Hydrophytic Vegetation Present?

Yes No X

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

Remarks: (Include photo numbers here or on a separate sheet.)
 The was very little vegetation. The wetland was surrounded by a gravel lot

SOIL

Sampling Point: UP016

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 4/2	100					Loamy/Clayey	Silt loam, gravel present

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 5

Hydric Soil Present? Yes No

Remarks:
 Soils have been significantly disturbed from past land use a surface coal mine.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pike County Solar Project City/County: Pike Sampling Date: 08/12/2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: Wet010

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR N Lat: 37.595354 Long: -82.427317 Datum: NAD83

Soil Map Unit Name: MyF- Myra very channery silt loam, 30 to 70 percent slopes, stony NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 Wetland point associated with Wetland 001. Soil is signifactly disturbed from past land use a surface coal mine.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Wetland occurs in human made ditch on the side of a minning road.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wet010

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

_____ =Total Cover
 50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix nigra</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

_____ =Total Cover
 50% of total cover: 5 20% of total cover: 2

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Phalaris arundinacea</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2. <u>Scirpus cyperinus</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>
3. <u>Carex vulpinoidea</u>	<u>10</u>	<u>No</u>	<u>OBL</u>
4. <u>Typha angustifolia</u>	<u>10</u>	<u>No</u>	<u>OBL</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

_____ =Total Cover
 50% of total cover: 28 20% of total cover: 11

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ =Total Cover
 50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species <u>35</u>	x 2 = <u>70</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>65</u> (A)	<u>100</u> (B)
Prevalence Index = B/A = <u>1.54</u>	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

- Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
- Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- Woody Vine** – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

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

SOIL

Sampling Point: Wet010

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	2.5YR 4/2	95	10YR 4/6	5	C	M	Loamy/Clayey	Silt Loam, gravel present

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (MLRA 136)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> (outside MLRA 127, 147, 148)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> MLRA 136)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 122, 136)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)		

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

Restrictive Layer (if observed): Type: <u>Gravel</u> Depth (inches): <u>6</u>	Hydric Soil Present? Yes <u>X</u> No <u> </u>
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Remarks:
 Refusal at 6 inches due to a gravel layer. The gravel layer is present due to the past surface coal mine and reclamation proecess. Some silt has washed into the wetland due to its prescense in a manmade channel. Prominent redox concentration.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pike County Solar Project City/County: Pike Sampling Date: 08/12/2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: Wet009

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR N Lat: 37.598401 Long: -82.422681 Datum: NAD83

Soil Map Unit Name: MyF- Myra very channery silt loam, 30 to 70 percent slopes, stony NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
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Remarks:
 Wetland point associated with Wetland 002. Soil is signifacly disturbed from past land use a surface coal mine.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wet009

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
 Total Number of Dominant Species Across All Strata: 4 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>60</u>	x 1 = <u>60</u>
FACW species <u>15</u>	x 2 = <u>30</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>105</u> (A)	<u>180</u> (B)
Prevalence Index = B/A = <u>1.71</u>	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

- Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
- Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- Woody Vine** – All woody vines greater than 3.28 ft in height.

Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix nigra</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

_____ =Total Cover
 50% of total cover: 5 20% of total cover: 2

Hydrophytic Vegetation Present?

Yes X No _____

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Arthraxon hispidus</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Scirpus cyperinus</u>	<u>15</u>	<u>No</u>	<u>FACW</u>
3. <u>Carex vulpinoidea</u>	<u>10</u>	<u>No</u>	<u>OBL</u>
4. <u>Typha latifolia</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
5. <u>Typha angustifolia</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

_____ =Total Cover
 50% of total cover: 48 20% of total cover: 19

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ =Total Cover
 50% of total cover: _____ 20% of total cover: _____

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

SOIL

Sampling Point: Wet009

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 4/2	80	7.5R 4/6	20	C	M	Loamy/Clayey	Silt loam, gravel present

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): 8

Hydric Soil Present? Yes X No

Remarks:
Prominent redox concentrations. Struck rock at 8"

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pike County Solar Project City/County: Pike Sampling Date: 08/12/2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: Wet011

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR N Lat: 37.598697 Long: -82.424180 Datum: NAD83

Soil Map Unit Name: MyF- Myra very channery silt loam, 30 to 70 percent slopes, stony NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
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Remarks:
 Wetland point associated with Wetland 003. Soil is signifacly disturbed from past land use a surface coal mine.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <u>X</u> Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wet011

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
				=Total Cover
	50% of total cover: _____			20% of total cover: _____
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
				=Total Cover
	50% of total cover: _____			20% of total cover: _____
Herb Stratum (Plot size: <u>5</u>)				
1.	<u>15</u>	Yes	FACW	
2.	<u>20</u>	Yes	OBL	
3.	<u>30</u>	Yes	OBL	
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
				<u>65</u> =Total Cover
	50% of total cover: <u>33</u>			20% of total cover: <u>13</u>
Woody Vine Stratum (Plot size: <u>30</u>)				
1.				
2.				
3.				
4.				
5.				
				=Total Cover
	50% of total cover: _____			20% of total cover: _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	<u>50</u>	x 1 =	<u>50</u>
FACW species	<u>15</u>	x 2 =	<u>30</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>65</u> (A)		<u>80</u> (B)
Prevalence Index = B/A = <u>1.23</u>			

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

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

SOIL

Sampling Point: Wet011

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	2.5YR 4/1	90	10YR 5/6	10	C	M	Loamy/Clayey	Silt loam, gravel present

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 6

Hydric Soil Present? Yes X No

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Prominent redox concentrations.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	<i>OMB Control #: 0710-0024, Exp:11/30/2024</i> <i>Requirement Control Symbol EXEMPT:</i> <i>(Authority: AR 335-15, paragraph 5-2a)</i>
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Project/Site: Pike County Solar Project City/County: Pike Sampling Date: 08/12/2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: Wet014

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR N Lat: 37.603142 Long: -82.413695 Datum: NAD83

Soil Map Unit Name: MyF- Myra very channery silt loam, 30 to 70 percent slopes, stony NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
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Remarks:
 Wetland point associated with Wetland 004. Soil is signifacly disturbed from past land use a surface coal mine.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wet014

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Column Totals:	Multiply by:	Column Totals:
OBL species <u>60</u>	<u>90</u> (A)	x 1 =	<u>60</u>
FACW species <u>30</u>		x 2 =	<u>60</u>
FAC species <u>0</u>		x 3 =	<u>0</u>
FACU species <u>0</u>		x 4 =	<u>0</u>
UPL species <u>0</u>		x 5 =	<u>0</u>
Column Totals:	<u>90</u> (A)		<u>120</u> (B)
Prevalence Index = B/A =		<u>1.33</u>	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

- Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
- Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- Woody Vine** – All woody vines greater than 3.28 ft in height.

Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Scirpus cyperinus</u>	<u>15</u>	<u>No</u>	<u>FACW</u>
2. <u>Bidens aristosa</u>	<u>15</u>	<u>No</u>	<u>FACW</u>
3. <u>Typha angustifolia</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

Hydrophytic Vegetation Present?

Yes X No

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

SOIL

Sampling Point: Wet014

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	2.5YR 5/2	90	10YR 5/6	10	C	M	Loamy/Clayey	Silt loam, gravel present

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 8

Hydric Soil Present? Yes X No

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Prominent redox concentrations. Struck rock at 8".

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pike County Solar Project City/County: Pike Sampling Date: 08/12/2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: Wet016

Investigator(s): M. Johnson, T. Parrish Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression/Channel Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR N Lat: 37.602725 Long: -82.412173 Datum: NAD83

Soil Map Unit Name: MyF- Myra very channery silt loam, 30 to 70 percent slopes, stony NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
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Remarks:
 Wetland point associated with Wetland 005. Soil is signifacly disturbed from past land use a surface coal mine.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Wet016

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix nigra</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	<u>30</u> =Total Cover		

50% of total cover: 15 20% of total cover: 6

Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
	_____ =Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Scirpus cyperinus</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>
2. <u>Carex vulpinoidea</u>	<u>15</u>	<u>No</u>	<u>OBL</u>
3. <u>Eupatorium serotinum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	<u>80</u> =Total Cover		

50% of total cover: 40 20% of total cover: 16

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	_____ =Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>45</u>	x 1 = <u>45</u>
FACW species <u>60</u>	x 2 = <u>120</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110</u> (A)	<u>180</u> (B)
Prevalence Index = B/A = <u>1.64</u>	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes No

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

SOIL

Sampling Point: Wet016

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 4/2	90	7.5YR 5/6	10	C	M	Loamy/Clayey	Silt loam, gravel present

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 5

Hydric Soil Present? Yes X No

Remarks:

Soils have been significantly disturbed from past land use a surface coal mine. Faint redox concentrations. Struck rock at 5".

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024
 Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL01_UR
 Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): _____
 Subregion (LRR or MLRA): LRR N Lat: 37.580532 Long: -82.443750 Datum: NAD83
 Soil Map Unit Name: Myra very channey silt loam 30-70% slopes, stony NWI classification: Non Hydric
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: _____ _____ _____	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL01_UR

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>27</u> x 4 = <u>108</u> UPL species <u>25</u> x 5 = <u>125</u> Column Totals: <u>52</u> (A) <u>233</u> (B) Prevalence Index = B/A = <u>4.48</u>
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. <u>Rhus glabra</u>	<u>5</u>	<u>Yes</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Liriodendron tulipifera</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>		
<u>Herb Stratum</u> (Plot size: _____)				
1. <u>Lespedeza cuneata</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
2. <u>Centaurea stoebe</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>	
3. <u>Miscanthus sinensis</u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
50% of total cover: <u>21</u>		20% of total cover: <u>9</u>		
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL01_UR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Sapling Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Shrub Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Herb Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
7.	_____	_____	_____	
8.	_____	_____	_____	
9.	_____	_____	_____	
10.	_____	_____	_____	
11.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Woody Vine Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Dominance Test worksheet:				
Number of Dominant Species That Are OBL, FACW, or FAC: _____				(A)
Total Number of Dominant Species Across All Strata: _____				(B)
Percent of Dominant Species That Are OBL, FACW, or FAC: _____				(A/B)
Prevalence Index worksheet:				
Total % Cover of:		Multiply by:		
OBL species	_____	x 1 =	_____	
FACW species	_____	x 2 =	_____	
FAC species	_____	x 3 =	_____	
FACU species	_____	x 4 =	_____	
UPL species	_____	x 5 =	_____	
Column Totals:	_____	(A)	_____	(B)
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
___ 1 - Rapid Test for Hydrophytic Vegetation				
___ 2 - Dominance Test is >50%				
___ 3 - Prevalence Index is ≤3.0 ¹				
___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
___ Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Five Vegetation Strata:				
Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).				
Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.				
Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.				
Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height.				
Woody Vine – All woody vines, regardless of height.				
Hydrophytic Vegetation Present?				
	Yes	_____	No	X _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: WTL01_UR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 2/2	100						Hit rock at 6"
								Very gravelly soil

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL01_WR

Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____

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

Subregion (LRR or MLRA): LRR N Lat: 37.580456 Long: -82.443471 Datum: NAD83

Soil Map Unit Name: Myra very channey silt loam 30-70% slopes, stony NWI classification: Non Hydric

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

Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>4</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL01_WR

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>60</u> x 1 = <u>60</u> FACW species <u>39</u> x 2 = <u>78</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>104</u> (A) <u>153</u> (B) Prevalence Index = B/A = <u>1.47</u>
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. <u>Platanus occidentalis</u>	<u>2</u>	No	FACW	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>1</u>		20% of total cover: <u>1</u>		
<u>Herb Stratum</u> (Plot size: _____)				
1. <u>Juncus effusus</u>	<u>15</u>	Yes	FACW	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
2. <u>Typha angustifolia</u>	<u>15</u>	Yes	OBL	
3. <u>Typha latifolia</u>	<u>15</u>	Yes	OBL	
4. <u>Eleocharis tenuis</u>	<u>20</u>	Yes	FACW	
5. <u>Ludwigia peploides</u>	<u>30</u>	Yes	OBL	
6. <u>Bidens frondosa</u>	<u>2</u>	No	FACW	
7. <u>Arthraxon hispidus</u>	<u>5</u>	No	FAC	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>51</u>		20% of total cover: <u>21</u>		
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL01_WR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
	50% of total cover: _____	20% of total cover: _____	_____	
Sapling Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Shrub Stratum (Plot size: _____)				Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody Vine – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	

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

SOIL

Sampling Point: WTL01_WR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4/1	95	10YR 4/3	5	RM	M		Hit rock at 8" Very gravelly soil

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
 The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL02_UR

Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____

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

Subregion (LRR or MLRA): LRR N Lat: 37.584256 Long: -82.445434 Datum: NAD83

Soil Map Unit Name: Myra very channes silt loam, 30-70% slopes, stony NWI classification: Non Wetland

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

Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____

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

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

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>x</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	

Remarks:

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL02_UR

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>57</u> x 4 = <u>228</u> UPL species <u>45</u> x 5 = <u>225</u> Column Totals: <u>102</u> (A) <u>453</u> (B) Prevalence Index = B/A = <u>4.44</u>
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. <u>Elaeagnus umbellata</u>	10	Yes	UPL	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>		
<u>Herb Stratum</u> (Plot size: _____)				
1. <u>Lespedeza cuneata</u>	50	Yes	FACU	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
2. <u>Miscanthus sinensis</u>	2	No	FACU	
3. <u>Solidago nemoralis</u>	15	No	UPL	
4. <u>Packera anonyma</u>	15	No	UPL	
5. <u>Daucus carota</u>	5	No	UPL	
6. <u>Lotus corniculatus</u>	5	No	FACU	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
50% of total cover: <u>46</u>		20% of total cover: <u>19</u>		
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL02_UR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Sapling Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Shrub Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Herb Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
7.	_____	_____	_____	
8.	_____	_____	_____	
9.	_____	_____	_____	
10.	_____	_____	_____	
11.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Woody Vine Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Dominance Test worksheet:				
Number of Dominant Species That Are OBL, FACW, or FAC: _____				(A)
Total Number of Dominant Species Across All Strata: _____				(B)
Percent of Dominant Species That Are OBL, FACW, or FAC: _____				(A/B)
Prevalence Index worksheet:				
Total % Cover of: _____		Multiply by: _____		
OBL species _____	x 1 = _____			
FACW species _____	x 2 = _____			
FAC species _____	x 3 = _____			
FACU species _____	x 4 = _____			
UPL species _____	x 5 = _____			
Column Totals: _____	(A)	_____	(B)	
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
___ 1 - Rapid Test for Hydrophytic Vegetation				
___ 2 - Dominance Test is >50%				
___ 3 - Prevalence Index is ≤3.0 ¹				
___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
___ Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Five Vegetation Strata:				
Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).				
Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.				
Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.				
Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height.				
Woody Vine – All woody vines, regardless of height.				
Hydrophytic Vegetation Present?				
		Yes _____	No _____	X _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: WTL02_UR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/1	100						Hit rock at 6"
								Soil is more gravel than dirt in places

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No x

Remarks:

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024
 Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL02a_WR
 Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR or MLRA): LRR N Lat: 37.584894 Long: -82.447430 Datum: NAD83
 Soil Map Unit Name: Myra very channes silt loam, 30-70% slopes, stony NWI classification: Non Wetland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: This wetland is a road rut	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes <u>x</u> No _____ Depth (inches): <u>5</u> Water Table Present? Yes <u>x</u> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL02a_WR

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: _____		20% of total cover: _____	

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: _____		20% of total cover: _____	

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>	2	No	FACW
2. <u>Carex vulpinoidea</u>	2	No	OBL
3. <u>Cyperus difformis</u>	60	Yes	OBL
4. <u>Typha angustifolia</u>	5	No	OBL
5. <u>Bidens frondosa</u>	2	No	FACW
6. <u>Cyperus strigosus</u>	2	No	FACW
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
73 = Total Cover			
50% of total cover: 37		20% of total cover: 15	

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>67</u>	x 1 = <u>67</u>
FACW species <u>6</u>	x 2 = <u>12</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>73</u> (A)	<u>79</u> (B)
Prevalence Index = B/A = <u>1.08</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL02a_WR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
	50% of total cover: _____	20% of total cover: _____	_____	
Sapling Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody Vine – All woody vines, regardless of height.
	50% of total cover: _____	20% of total cover: _____	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	

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

SOIL

Sampling Point: WTL02a_WR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-6	10YR 4/1	95	10YR 5/8	5	RM	PL/M	Hit rock at 6"
							Soil is more gravel than dirt in places

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
 The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL02b_WR

Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____

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

Subregion (LRR or MLRA): LRR N Lat: 37.584103 Long: -82.445788 Datum: NAD83

Soil Map Unit Name: Myra very channes silt loam, 30-70% slopes, stony NWI classification: Non Wetland

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

Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
---	--

Remarks:
 This wetland is a road rut

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL02b_WR

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>	8	No	FACW
2. <u>Arthraxon hispidus</u>	5	No	FAC
3. <u>Scirpus cyperinus</u>	15	Yes	FACW
4. <u>Typha angustifolia</u>	25	Yes	OBL
5. <u>Schoenoplectus tabernaemontani</u>	8	No	OBL
6. <u>Lespedeza cuneata</u>	15	Yes	FACU
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	76 =Total Cover		
50% of total cover: 38	20% of total cover: 16		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>33</u>	x 1 = <u>33</u>
FACW species <u>23</u>	x 2 = <u>46</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>76</u> (A)	<u>154</u> (B)
Prevalence Index = B/A = <u>2.03</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL02b_WR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
	50% of total cover: _____	20% of total cover: _____	_____	
Sapling Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Shrub Stratum (Plot size: _____)				Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody Vine – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	

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

SOIL

Sampling Point: WTL02b_WR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-6	10YR 4/1	95	10YR 5/8	5	RM	PL/M	Hit rock at 6"
							Soil is more gravel than dirt in places

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
 The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024
 Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL02c_WR
 Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR or MLRA): LRR N Lat: 37.583669 Long: -82.444232 Datum: NAD83
 Soil Map Unit Name: Myra very channes silt loam, 30-70% slopes, stony NWI classification: Non Wetland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL02c_WR

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>	5	No	FACW
2. <u>Arthraxon hispidus</u>	10	No	FAC
3. <u>Scirpus cyperinus</u>	8	No	FACW
4. <u>Typha angustifolia</u>	50	Yes	OBL
5. <u>Eleocharis palustris</u>	15	Yes	OBL
6. <u>Solidago gigantea</u>	2	No	FACW
7. <u>Bidens frondosa</u>	10	No	FACW
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	100 =Total Cover		
50% of total cover: <u>50</u>	20% of total cover: <u>20</u>		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>65</u>	x 1 = <u>65</u>
FACW species <u>25</u>	x 2 = <u>50</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>145</u> (B)
Prevalence Index = B/A = <u>1.45</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL02c_WR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Sapling Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Shrub Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Herb Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
7.	_____	_____	_____	
8.	_____	_____	_____	
9.	_____	_____	_____	
10.	_____	_____	_____	
11.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Woody Vine Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
Dominance Test worksheet:				
Number of Dominant Species That Are OBL, FACW, or FAC:				_____ (A)
Total Number of Dominant Species Across All Strata:				_____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:				_____ (A/B)
Prevalence Index worksheet:				
Total % Cover of:		Multiply by:		
OBL species	_____	x 1 =	_____	
FACW species	_____	x 2 =	_____	
FAC species	_____	x 3 =	_____	
FACU species	_____	x 4 =	_____	
UPL species	_____	x 5 =	_____	
Column Totals:	_____ (A)		_____ (B)	
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
___ 1 - Rapid Test for Hydrophytic Vegetation				
___ 2 - Dominance Test is >50%				
___ 3 - Prevalence Index is ≤3.0 ¹				
___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
___ Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Five Vegetation Strata:				
Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).				
Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.				
Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.				
Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height.				
Woody Vine – All woody vines, regardless of height.				
Hydrophytic Vegetation Present?				
	Yes	_____	No	_____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: WTL02c_WR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-6	10YR 4/1	95	10YR 5/8	5	RM	PL/M	Hit rock at 6"
							Soil is more gravel than dirt in places

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
 The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024
 Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL03_UR
 Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): _____
 Subregion (LRR or MLRA): LRR N Lat: 37.580626 Long: -82.442022 Datum: NAD83
 Soil Map Unit Name: Myra very channes silt loam, 30-70% slopes, stony NWI classification: Non Wetland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>x</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL03_UR

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
=Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>2</u> x 2 = <u>4</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>52</u> x 4 = <u>208</u> UPL species <u>12</u> x 5 = <u>60</u> Column Totals: <u>66</u> (A) <u>272</u> (B) Prevalence Index = B/A = <u>4.12</u>
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. <u>Juniperus virginiana</u>	<u>2</u>	No	FACU	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Rubus argutus</u>	<u>5</u>	Yes	FACU	
3. <u>Platanus occidentalis</u>	<u>2</u>	No	FACW	
4. <u>Liriodendron tulipifera</u>	<u>5</u>	Yes	FACU	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
=Total Cover				
50% of total cover: <u>7</u>		20% of total cover: <u>3</u>		
<u>Herb Stratum</u> (Plot size: _____)				
1. <u>Lespedeza cuneata</u>	<u>40</u>	Yes	FACU	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
2. <u>Solidago nemoralis</u>	<u>10</u>	No	UPL	
3. <u>Grindelia lanceolata</u>	<u>2</u>	No	UPL	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
=Total Cover				
50% of total cover: <u>26</u>		20% of total cover: <u>11</u>		
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
50% of total cover: _____		20% of total cover: _____		

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL03_UR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			
Sapling Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			
Herb Stratum (Plot size: _____)				Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody Vine – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			

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

SOIL

Sampling Point: WTL03_UR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/3	100						Hit rock at 12"
								Soil is more gravel than dirt in places

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No x

Remarks:

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL03a_WR

Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____

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

Subregion (LRR or MLRA): LRR N Lat: 37.579648 Long: -82.442162 Datum: NAD83

Soil Map Unit Name: Myra very channes silt loam, 30-70% slopes, stony NWI classification: Non Wetland

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

Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____

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

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydic Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ True Aquatic Plants (B14) _____ High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <u>x</u> _____ Saturation (A3) <u>x</u> _____ Oxidized Rhizospheres on Living Roots (C3) _____ Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <u>x</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL03a_WR

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
=Total Cover			
50% of total cover: _____		20% of total cover: _____	

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fraxinus pennsylvanica</u>	2	No	FACW
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
2 =Total Cover			
50% of total cover: 1		20% of total cover: 1	

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus tenuis</u>	30	Yes	FAC
2. <u>Solidago gigantea</u>	5	No	FACW
3. <u>Typha angustifolia</u>	70	Yes	OBL
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
105 =Total Cover			
50% of total cover: 53		20% of total cover: 21	

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
=Total Cover			
50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>70</u>	x 1 = <u>70</u>
FACW species <u>7</u>	x 2 = <u>14</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>107</u> (A)	<u>174</u> (B)
Prevalence Index = B/A = <u>1.63</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL03a_WR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: _____	20% of total cover: _____			
Sapling Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody Vine – All woody vines, regardless of height.
50% of total cover: _____	20% of total cover: _____			
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			

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

SOIL

Sampling Point: WTL03a_WR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/1	70	10YR 2/1	35	RM	M		Hit rock at 6"
			10YR 5/8	5	D	PL		Soil is more gravel than dirt in places

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
 The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024
 Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL03b_WR
 Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR or MLRA): LRR N Lat: 37.580064 Long: -82.441926 Datum: NAD83
 Soil Map Unit Name: Myra very channes silt loam, 30-70% slopes, stony NWI classification: Non Wetland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL03b_WR

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
=Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>47</u> x 1 = <u>47</u> FACW species <u>37</u> x 2 = <u>74</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>119</u> (A) <u>226</u> (B) Prevalence Index = B/A = <u>1.90</u>
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. <u>Salix nigra</u>	<u>5</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <u>2</u> - Dominance Test is >50% <input checked="" type="checkbox"/> <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
=Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>3</u>		20% of total cover: <u>1</u>		
<u>Herb Stratum</u> (Plot size: _____)				
1. <u>Juncus effusus</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
2. <u>Cyperus strigosus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
3. <u>Typha angustifolia</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>	
4. <u>Arthraxon hispidus</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	
5. <u>Scirpus cyperinus</u>	<u>2</u>	<u>No</u>	<u>FACW</u>	
6. <u>Carex lurida</u>	<u>2</u>	<u>No</u>	<u>OBL</u>	
7. <u>Juncus tenuis</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
=Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
50% of total cover: <u>57</u>		20% of total cover: <u>23</u>		
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
50% of total cover: _____		20% of total cover: _____		

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL03b_WR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
	50% of total cover: _____	20% of total cover: _____	_____	
Sapling Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Shrub Stratum (Plot size: _____)				Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody Vine – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	

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

SOIL

Sampling Point: WTL03b_WR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/1	70	10YR 2/1	35	RM	M		Hit rock at 6"
			10YR 5/8	5	D	PL		Soil is more gravel than dirt in places

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Mucky Mineral (F1) **(MLRA 136)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 122, 136)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
 The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024
 Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL03c_WR
 Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR or MLRA): LRR N Lat: 37.580617 Long: -82.441690 Datum: NAD83
 Soil Map Unit Name: Myra very channes silt loam, 30-70% slopes, stony NWI classification: Non Wetland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes <u>x</u> No _____ Depth (inches): <u>6</u> Water Table Present? Yes <u>x</u> No _____ Depth (inches): <u>3</u> Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL03c_WR

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Salix nigra</u>	10	Yes	OBL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
_____ =Total Cover	10			Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right">Total % Cover of:</td> <td style="width:50%; text-align:left">Multiply by:</td> </tr> <tr> <td>OBL species <u>72</u></td> <td>x 1 = <u>72</u></td> </tr> <tr> <td>FACW species <u>12</u></td> <td>x 2 = <u>24</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>99</u> (A)</td> <td><u>141</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center">Prevalence Index = B/A = <u>1.42</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>72</u>	x 1 = <u>72</u>	FACW species <u>12</u>	x 2 = <u>24</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>99</u> (A)	<u>141</u> (B)	Prevalence Index = B/A = <u>1.42</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>72</u>	x 1 = <u>72</u>																			
FACW species <u>12</u>	x 2 = <u>24</u>																			
FAC species <u>15</u>	x 3 = <u>45</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>99</u> (A)	<u>141</u> (B)																			
Prevalence Index = B/A = <u>1.42</u>																				
50% of total cover: <u>5</u>	_____	20% of total cover: <u>2</u>	_____																	
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
1. <u>Salix nigra</u>	10	Yes	OBL																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
_____ =Total Cover	10																			
50% of total cover: <u>5</u>	_____	20% of total cover: <u>2</u>	_____																	
<u>Herb Stratum</u> (Plot size: _____)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.																
1. <u>Lemna minor</u>	2	No	OBL																	
2. <u>Cyperus eragrostis</u>	5	No	FACW																	
3. <u>Typha angustifolia</u>	50	Yes	OBL																	
4. <u>Arthraxon hispidus</u>	15	No	FAC																	
5. <u>Scirpus cyperinus</u>	5	No	FACW																	
6. <u>Solidago gigantea</u>	2	No	FACW																	
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
_____ =Total Cover	79																			
50% of total cover: <u>40</u>	_____	20% of total cover: <u>16</u>	_____																	
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																
1. _____																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
_____ =Total Cover																				
50% of total cover: _____	_____	20% of total cover: _____	_____																	

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL03c_WR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
	50% of total cover: _____	20% of total cover: _____	_____	
Sapling Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Shrub Stratum (Plot size: _____)				Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody Vine – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____	_____	

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

SOIL

Sampling Point: WTL03c_WR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-12	10YR 4/1	95	10YR 5/8	5	RM	PL/M	Hit rock at 12"
							Soil is more gravel than dirt in places

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
 The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024
 Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: WTL04_WR
 Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR or MLRA): LRR N Lat: 37.584384 Long: -82.441915 Datum: NAD83
 Soil Map Unit Name: Myra very channes silt loam, 30-70% slopes, stony NWI classification: Non Wetland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

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

Field Observations: Surface Water Present? Yes <u>x</u> No _____ Depth (inches): <u>2</u> Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes <u>x</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL04_WR

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus tenuis</u>	10	No	FAC
2. <u>Scirpus cyperinus</u>	40	Yes	FACW
3. <u>Typha angustifolia</u>	50	Yes	OBL
4. <u>Juncus tenuis</u>	10	No	FAC
5. <u>Eleocharis palustris</u>	10	No	OBL
6. <u>Cyperus strigosus</u>	5	No	FACW
7. <u>Juncus effusus</u>	5	No	FACW
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	130 =Total Cover		
50% of total cover: 65	20% of total cover: 26		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>60</u>	x 1 = <u>60</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>130</u> (A)	<u>220</u> (B)
Prevalence Index = B/A = <u>1.69</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WTL04_WR

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Sapling Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Shrub Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Herb Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
7.	_____	_____	_____	
8.	_____	_____	_____	
9.	_____	_____	_____	
10.	_____	_____	_____	
11.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Woody Vine Stratum (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
	_____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Dominance Test worksheet:				
Number of Dominant Species That Are OBL, FACW, or FAC: _____				(A)
Total Number of Dominant Species Across All Strata: _____				(B)
Percent of Dominant Species That Are OBL, FACW, or FAC: _____				(A/B)
Prevalence Index worksheet:				
Total % Cover of:		Multiply by:		
OBL species	_____	x 1 =	_____	
FACW species	_____	x 2 =	_____	
FAC species	_____	x 3 =	_____	
FACU species	_____	x 4 =	_____	
UPL species	_____	x 5 =	_____	
Column Totals:	_____	(A)	_____	(B)
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
___ 1 - Rapid Test for Hydrophytic Vegetation				
___ 2 - Dominance Test is >50%				
___ 3 - Prevalence Index is ≤3.0 ¹				
___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
___ Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Five Vegetation Strata:				
Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).				
Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.				
Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.				
Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height.				
Woody Vine – All woody vines, regardless of height.				
Hydrophytic Vegetation Present?				
	Yes	_____	No	_____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: WTL04_WR

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/1	80	10YR 5/8	10	RM	M		Hit rock at 10"
								Soil is more gravel than dirt in places

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (MLRA 136)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> (outside MLRA 127, 147, 148)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> MLRA 136)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 122, 136)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)		

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
---	--

Remarks:
 The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".

Project/Site: Pike County Solar Project City/County: Meta / Pike Sampling Date: 08-12-2024

Applicant/Owner: Pike County Solar Project, LLC State: KY Sampling Point: wet008

Investigator(s): Ralph Schuler, Andrew Jaskowiak Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 2-4

Subregion (LRR or MLRA): LRR N Lat: 37.5897 Long: -82.429499 Datum: NAD83

Soil Map Unit Name: Myra very channes silt loam, 30-70% slopes, stony NWI classification: None

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

Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No

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

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydic Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	

Remarks:

HYDROLOGY

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

Field Observations: Surface Water Present? Yes <u> </u> No <u>x</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>x</u> Depth (inches): <u> </u> Saturation Present? Yes <u>x</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	---

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: wet008

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus tenuis</u>	10	No	FAC
2. <u>Scirpus cyperinus</u>	40	Yes	FACW
3. <u>Typha angustifolia</u>	50	Yes	OBL
4. <u>Juncus tenuis</u>	10	No	FAC
5. <u>Eleocharis palustris</u>	10	No	OBL
6. <u>Cyperus strigosus</u>	5	No	FACW
7. <u>Juncus effusus</u>	5	No	FACW
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	130 =Total Cover		
50% of total cover: 65	20% of total cover: 26		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>60</u>	x 1 = <u>60</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>130</u> (A)	<u>220</u> (B)
Prevalence Index = B/A = <u>1.69</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

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

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: wet008

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: _____	20% of total cover: _____			
Sapling Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody Vine – All woody vines, regardless of height.
50% of total cover: _____	20% of total cover: _____			
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			
Herb Stratum (Plot size: _____)				_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			
Woody Vine Stratum (Plot size: _____)				_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			
50% of total cover: _____	20% of total cover: _____			
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: wet008

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/1	80	10YR 5/8	10	RM	M		Hit rock at 10"
								Soil is more gravel than dirt in places

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

The presence of a reduced matrix within 12 inches of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".