

Wetland and Stream Delineation Report for the Proposed Lost City Solar Project in Muhlenberg County, Kentucky



Prepared for: Lost City Renewables, LLC

13 January 2025

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ACRONYMS AND ABBREVIATIONS

FEMA Federal Emergency Management Agency

GPS global positioning system

NHD National Hydrography Dataset

NLCD National Land Cover Database

NRCS Natural Resource Conservation Service

NWI National Wetlands Inventory

OHWM ordinary high-water mark

PEM palustrine emergent wetland

RBP Rapid Bioassessment Protocol

USACE United States Army Corps of Engineers

USDA United States Department of Agriculture

USGS United States Geological Survey

WOTUS Waters of the United States

1 Introduction

Lost City Renewables, LLC (Lost City) contracted Copperhead Environmental Consulting, Inc. (Copperhead) to conduct a wetland and stream delineation for the proposed Lost City Solar project (Project) in Muhlenberg County, Kentucky, to identify and delineate aquatic features that may be considered jurisdictional waters of the United States (WOTUS) or non-jurisdictional waters. The overall Project encompasses approximately 1,374.2 acres (Figure 1 – Project Overview in Appendix A) consisting of a 1,368.3-acre original study area (original study area) and a 115-acre parcel addition (Lewis/Gardner addition). Collectively the original study area and the Lewis/Gardner parcel addition will be referred to herein as the "Study Area". The field delineation for the original study area was conducted between March 18, 2024, and April 5, 2024 by Copperhead employees Shea Davis, Meg Herod, Isaac Bentley, and Jake Murphy. The field delineation for the Lewis/Gardner addition was conducted between July 30, 2024 and August 2, 2024 by Copperhead employees Isaac Bentley and Shea Davis.

Site Conditions 1.1

The Study Area is located within the Eastern Mountains and Piedmont (EMP) physiographic province, southeast of the town of Penrod. Vegetation primarily consisted of three dominant upland community types: hardwood forests comprised primarily of yellow poplar (Liriodendron tulipifera), sugar maple (Acer saccharum), white oak (Quercus alba), and slippery elm (Ulmus rubra); open pasture areas comprised primarily of tall fescue (Schedonorus arundinaceus) and red deadnettle (Lamium purpureum), and agricultural fields previously planted in corn (Zea mays) comprised primarily of chickweed (Stellaria media) and hairy buttercup (Ranunculus sardous) during the field delineations. These upland communities were interspersed with three cowardin classes of wetlands including palustrine emergent (PEM) palustrine scrub/shrub (PSS) and palustrine forested (PFO) wetlands. Hydrology, vegetation and soil conditions observed within wetlands on site are described in chapter 3.2 (Field Survey Results). Site soils were generally characterized as silty loams, with some silty clay loam profiles occurring within wetland areas. United States Department of Agriculture (USDA)-mapped hydric soil units including Belknap silt loam, 0 to 2 percent slopes, occasionally flooded; Bonnie silt loam, 0 to 2 percent slopes, occasionally flooded; and Sharon silt loam, 0 to 2 percent slopes, occasionally flooded comprised approximately 119.7 acres of the Study Area (See attached web soil survey within Appendix A). Some areas on the site had been significantly disturbed by row cropping and tilling, and climatic/hydrologic conditions were considered normal for the location and time of year during for the majority of field surveys. Conditions were considered wetter than normal during the July 30-August 2 delineation effort and drier than normal on March 28 (See Appendix C - Antecedent Precipitation Tool Results). Representative photographs showing site conditions at photo stations and data point locations are included in Appendix B.

2 **METHODS**

2.1 Preliminary Desktop Analysis

Prior to the field survey, a preliminary desktop analysis of available information was conducted using the following sources:

ESRI GeoServer Web Map Service, National Land Cover Database (NLCD)_2016 Land



Cover L48:

- Federal Emergency Management Agency (FEMA) National Flood Hazard Map (FEMA 2022);
- National Wetlands Inventory (NWI) Maps (USFWS 2021);
- The National Hydrography Dataset (NHD; U.S. Geological Survey [USGS] 2006);
- USDA NRCS Web Soil Survey (Soil Survey Staff 2022).

The locations of surface waters, wetlands, and floodplains identified during the preliminary desktop analysis were mapped (*Figure 3 – Existing Hydrology* and *Figure 4 – FEMA Flood Hazard Zones* in Appendix A) and used as a baseline reference that was compared, verified, and/or modified based on actual conditions observed during the field investigations using the methodologies outlined in Sections 2.2 and 2.3.

Desktop mapping was also informed by results of initial site reconnaissance that occurred prior to each phase of the delineation. The reconnaissance focused on identifying areas of uncertainty where wetlands and waters may occur on site, and what the hydrologic, vegetation and soil characteristics were within those areas prior to the delineation.

2.2 Methods for Delineating Wetlands

Copperhead conducted field investigations to determine the presence and extent of wetlands. When present, the location, extent, and boundaries of wetlands within the Study Area were delineated in accordance with the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual (USACE 1987) and Regional Supplement to the Corps of Engineers' Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) (USACE 2012). Wetland delineations were based on the presence of wetland hydrology, hydrophytic (wetland) vegetation, and hydric soils. Wetlands identified within the Study Area were described using Cowardin classes (Cowardin, et al. 1979). The Cowardin classification system was adopted by the US Fish and Wildlife Service (USFWS) and is used by federal agencies to describe the type of wetland feature present.

When delineating the extent of wetlands, observations of the presence of wetland hydrology indicators were initially made. Vegetation species within each area possessing wetland hydrology were then identified and the wetland indicator status of each plant species was determined according to the 2022 National Wetland Plant List (Lichvar et al. 2022). Finally, soil profiles within each respective community were sampled using an Eijkelkamp soil auger for combination soils to a depth of approximately eighteen inches to determine if hydric soil indicators were present. Soil colors were documented using a Munsell Soil Color Chart (Munsell Color 2010). Areas with the presence of all three wetland indicators (i.e., wetland hydrology, hydrophytic vegetation, and hydric soils) were delineated as wetlands. Areas with one or more parameters considered "significantly disturbed" or "naturally problematic" based on the 1987 manual and EMP regional supplement were evaluated on a case- by-case basis.

At locations where wetland indicators were observed (i.e., wetland hydrology, hydrophytic vegetation, and hydric soils), a USACE Wetland Determination Data Form was completed. Each data form included supporting rationales for determining the presence or absence of each wetland parameter. Paired points were taken to document the conditions within wetlands and adjacent uplands wherever applicable.

The wetland boundaries within the Study Area were delineated using a Trimble global positioning system (GPS) handheld unit capable of sub-meter accuracy. GPS data were collected using ArcGIS Online Field Maps software. The GPS points of wetland boundaries and data point locations (including coordinates and attribute information) were subsequently imported into ESRI ArcGIS software for creating maps of delineated wetlands and calculating wetland acreages.

2.3 Methods for Assessing Streams

Hydrologic features other than wetlands (e.g., stream channels) were delineated in the field by identifying the ordinary high-water mark (OHWM). OHWM is defined as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR 328.3(c)(7)).

Features meeting the definition of streams were assessed for flow regime (i.e., ephemeral, intermittent, or perennial) and listed according to their Cowardin classification. All natural linear features with a defined bed and bank, OHWM, intermittent or perennial flow regime, and observed or mapped hydrologic connection to navigable waters downstream were considered jurisdictional WOTUS. Streams lacking evidence of flow except in direct response to heavy rainfall (e.g., hydric soils within the channel, aquatic organisms, substrate sorting etc.) were delineated as non-jurisdictional ephemeral drainage features and classified as such. Man-made features (e.g., grassy swales or drainage ditches) and ephemeral drainage features with or without a bed and bank, but no discernable OHWM, were excluded from the delineation so long as they lacked signs of sustained flow or the three aforementioned wetland parameters.

2.4 *Jurisdictional Statuses*

2.4.1 Federal Jurisdiction

Jurisdictional statuses were defined for each delineated resource using the most up-to-date federal guidance current as of Monday, January 13, 2025. On September 8, 2023, revised guidance from the USACE and the EPA was published to the Federal Register conforming to rulings from the case of Sackett vs EPA regarding determinations of the jurisdictional status for wetlands and waterbodies. The conforming rules removed the significant nexus standard introduced previously under the Rapanos rules and eliminated the portion of the January 2023 definitions that considered all interstate waters jurisdictional. Ultimately, jurisdictional statuses for wetlands and waters were based on the relative permanence of a feature, and the presence of a direct surface connection between wetlands, relatively permanent waters, and downstream waters of the U.S. As such, only those waters with relatively permanent stagnant or flowing water and a continuous overland connection to downstream navigable waters were deemed jurisdictional at the federal level.

3 RESULTS

3.1 Desktop Analysis Results

The following information on soils and hydrology was gathered to inform and prepare the field team completing the delineation.



3.1.1 Site Soils

A review of the NRCS's Web Soil Survey and the Soil Survey of Muhlenberg County, Kentucky, (Soil Survey Staff 2022) identified eighteen soil map units within the Study Area. Three soil types have a hydric soil rating: Belknap silt loam, 0 to 2 percent slopes, occasionally flooded; Bonnie silt loam, 0 to 2 percent slopes, occasionally flooded (Figure 7 in Appendix A). These soil map units occupy approximately 119.4 acres (8.7%) of the Study Area.

3.1.2 Site Hydrology

The Study Area is within the Norman Branch-Rocky Creek, the Hazel Creek-Rocky Creek, and the Deerlick Creek-Mud River (051100030207, 051100030208, 051100030209) subwatersheds. According to the KY-MU-9 precipitation gauge located in Greenville, Kentucky, the last significant precipitation event recorded prior to the original delineation occurred on March 15, 2024 with a total of 0.53 inches. In addition, according to the KY-LG-13 precipitation gauge located in Lewisburg, *Kentucky*, significant precipitation events were recorded prior to the delineations on July 31, 2024 with a total of 0.26 inches and August 2, 2024 with a total of 0.66 inches. The NWI features in this area were photo-interpreted using 1:58,000 scale color infrared imagery from 1983 (USFWS 1983). The Study Area includes three NWI wetlands, eight NWI lakes or ponds, and eight NHD streams (*Figure 3 – Existing Hydrology*).

3.2 Field Survey Results

The following sections provide the field survey results for the wetland and stream delineation. Photographic documentation of the site and delineated aquatic features is provided in Appendix B. USACE Wetland Determination Data Forms are provided in Appendix D. Resumes of Copperhead personnel who completed the delineation are included in Appendix E.

3.2.1 Wetland Delineation

The field survey resulted in the identification of seventy-nine (79) wetlands, nine ponds, thirteen perennial streams, and 35 intermittent streams within the Study Area (*Figure 7 - Wetland Delineation* in Appendix A). In addition, 280 non-regulated ephemeral drainages were identified within the Study Area. Classifications and acreages of each delineated feature are described in Table 1.

Table 1. Summary of delineated aquatic resources within the Lost City Solar Project Study Area, Muhlenberg County, Kentucky.

Feature Name	USACE Unverified Jusisdiction ¹	Feature Size (acres)	Feature Length (lf)	Feature width (feet)	Cowardin Classification Code ²
IBW1	Isolated*	0.01	-	=	PEM
IBW10	Isolated*	0.05	-	-	PEM
IBW11	Isolated*	0.06	-	-	PEM
IBW13	Isolated*	0.16	-	-	PEM
IBW14	Isolated	0.05	-	-	PEM
IBW15	Isolated*	0.03	-	-	PEM
IBW16	Isolated*	0.04	-	=	PEM

Feature Name	USACE Unverified	Feature Size	Feature Length	Feature width	Cowardin
Teature Nume	Jusisdiction ¹	(acres)	(lf)	(feet)	Classification Code ²
IBW17	Jurisdictional	0.86	-	-	PEM
IBW18	Isolated*	0.11	-	-	PEM
IBW19	Isolated	0.01	-	-	PEM
IBW2	Isolated	0.05	-	-	PEM
IBW20	Jurisdictional	0.03	-	-	PEM
IBW21	Jurisdictional	0.05	-	-	PEM
IBW22	Jurisdictional	0.12	-	-	PEM
IBW24	Isolated*	0.03	-	-	PEM
IBW3	Isolated	0.01	-	-	PEM
IBW4	Isolated	0.07	-	-	PEM
IBW5	Isolated*	0.21	-	-	PEM
IBW6	Isolated*	0.17	-	-	PEM
IBW7	Isolated	0.18	-	-	PEM
IBW8	Isolated*	0.51	-	-	PEM
IBW9	Isolated*	0.03	-	-	PEM
JMW1	Isolated*	3.30	-	-	PEM
JMW10	Isolated*	0.05	-	-	PEM
JMW11	Isolated*	0.12	-	-	PEM
JMW12	Isolated	0.16	-	-	PEM
JMW13	Isolated	0.02	-	-	PEM
JMW14	Isolated	0.14	-	-	PEM
JMW15	Isolated	0.14	-	-	PEM
JMW16	Isolated*	0.14	-	-	PEM
JMW18	Isolated	0.01	-	-	PEM
JMW19	Isolated	0.15	-	-	PEM
JMW21	Isolated	0.04	-	-	PEM
JMW4	Isolated	0.05	-	-	PEM
JMW5	Isolated*	0.19	-	-	PEM
JMW6	Isolated*	0.09	-	-	PEM
JMW8	Isolated*	0.08	-	-	PEM
JMW9	Isolated*	0.06	-	-	PEM
MHW001	Isolated	0.04	-	-	PEM
MHW002	Isolated	0.13	-	-	PEM
MHW003	Jurisdictional	0.33	-	-	PEM
MHW004	Jurisdictional	0.47	-	-	PEM
MHW005	Jurisdictional	1.08	-	-	PEM
MHW006	Jurisdictional	0.08	-	-	PEM
MHW007	Jurisdictional	0.57			PEM
MHW008	Jurisdictional	0.38	-		PEM
MHW010	Isolated*	1.37	-	-	PEM
MHW012	Isolated*	0.40	-	-	PEM
MHW013	Isolated*	0.32	-	-	PEM
					DEM
MHW014	Isolated*	1.35	-	<u>-</u>	PEM
MHW014 MHW021	Isolated* Isolated*	1.35 0.15	-	-	PEM

7

Feature Name	USACE Unverified Jusisdiction ¹	Feature Size (acres)	Feature Length (lf)	Feature width (feet)	Cowardin Classification Code²
SDW1	Isolated	0.57	-	-	PEM
SDW2	Isolated*	0.10	-	-	PEM
SDW3	Jurisdictional	0.28	-	-	PEM
SDW4	Isolated*	0.03	-	-	PEM
SDW5	Jurisdictional	0.36	-	-	PEM
SDW7	Isolated	0.76	=	=	PEM
SDW8	Isolated	0.26	=	=	PEM
SDW9	Jurisdictional	1.11	=	=	PEM
W001	Jurisdictional	0.06	-	-	PEM
W002	Isolated	0.04	-	-	PEM
W003	Jurisdictional	0.20	-	-	PEM
W004	Isolated	0.01	-	-	PEM
W005	Isolated	0.01	-	-	PEM
IBW12	Isolated*	0.06	-	-	PFO
IBW23	Jurisdictional	0.31	-	-	PFO
JMW17	Isolated*	0.06	-	-	PFO
JMW20	Isolated*	0.06	-	-	PFO
JMW3	Isolated*	0.01	-	-	PFO
MHW009	Isolated*	0.18	-	-	PFO
MHW011	Jurisdictional	1.56	=	-	PFO
MHW015	Isolated*	0.60	=	-	PFO
MHW018	Jurisdictional	0.08	=	-	PFO
MHW019	Jurisdictional	0.07	-	-	PFO
MHW020	Jurisdictional	0.73	=	-	PFO
MHW024	Jurisdictional	3.95	=	=	PFO
SDW6	Jurisdictional	1.55	=	=	PFO
JMW7	Jurisdictional	0.16	=	=	PSS
IBPUB1	Jurisdictional	0.61	-	-	PUB
IBPUB2	Jurisdictional	1.31	=	=	PUB
IBPUB4	Isolated	0.33	-	-	PUB
IBPUB5	Jurisdictional	4.44	-	-	PUB
JMW2	Isolated	0.05	-	-	PUB
PUB-B	Isolated	0.21	-	-	PUB
PUB-C	Isolated*	0.21	-	-	PUB
PUB002	Isolated	0.20	-	-	PUB
PUB003	Isolated	0.07	-	-	PUB
IBS47	Jurisdictional	-	454.13	4	R3 (UPPER PERENNIAL)
SDS41	Jurisdictional	-	3867.26	6	R3 (UPPER PERENNIAL)
SDS48	Jurisdictional	-	2464.50	6	R3 (UPPER PERENNIAL)
SDS48	Jurisdictional	=	121.69	11	R3 (UPPER PERENNIAL)

Feature Name	USACE Unverified Jusisdiction ¹	Feature Size (acres)	Feature Length (lf)	Feature width (feet)	Cowardin Classification Code ²
SDS48	Jurisdictional	-	536.31	7	R3 (UPPER PERENNIAL)
SDS48 braid	Jurisdictional	-	94.03	7	R3 (UPPER PERENNIAL)
SDS70	Jurisdictional	-	68.75	5	R3 (UPPER PERENNIAL)
SM	Jurisdictional	-	6611.87	7	R3 (UPPER PERENNIAL)
IBS45	Jurisdictional	-	760.62	9	R3 (UPPER PERENNIAL)
JMS2	Jurisdictional	-	728.26	4	R3 (UPPER PERENNIAL)
MHS018	Jurisdictional	-	216.37	6	R3 (UPPER PERENNIAL)
SDS47	Jurisdictional	-	1049.03	3.5	R3 (UPPER PERENNIAL)
S010	Jurisdictional		835.4	10	R3 (UPPER PERENNIAL)
IBS28	Jurisdictional	-	690.87	3	R4 (INTERMITTENT)
IBS44	Jurisdictional	-	664.05	5	R4 (INTERMITTENT)
IBS47	Jurisdictional	-	2915.37	3	R4 (INTERMITTENT)
JMS2	Jurisdictional	-	1551.61	5	R4 (INTERMITTENT)
JMS5	Jurisdictional	-	758.84	3	R4 (INTERMITTENT)
MHS021	Jurisdictional	-	1789.95	2	R4 (INTERMITTENT)
MHS027	Jurisdictional	-	106.22	4.5	R4 (INTERMITTENT)
MHS032	Jurisdictional	-	228.08	3	R4 (INTERMITTENT)
SAA Braid 1	Jurisdictional	-	201.38	2	R4 (INTERMITTENT)
SAD	Jurisdictional	-	164.18	1	R4 (INTERMITTENT)
SB	Jurisdictional	-	182.43	2	R4 (INTERMITTENT)
SB	Jurisdictional	-	168.85	2	R4 (INTERMITTENT)
SBA	Jurisdictional	-	113.97	3	R4 (INTERMITTENT)
SBK	Jurisdictional	-	701.20	3	R4 (INTERMITTENT)
SDS13	Jurisdictional	-	138.16	5	R4 (INTERMITTENT)
SDS25	Jurisdictional	-	1637.46	5	R4

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	ENVIRON	MENTAL CONSU	LTING		
Feature Name	USACE Unverified Jusisdiction ¹	Feature Size (acres)	Feature Length (lf)	Feature width (feet)	Cowardin Classification Code ²
		•			(INTERMITTENT)
SDS44	Jurisdictional	-	496.11	1	R4 (INTERMITTENT)
SDS44	Jurisdictional	-	256.56	1.5	R4 (INTERMITTENT)
SDS49	Jurisdictional	-	1051.70	2	R4 (INTERMITTENT)
SDS69	Jurisdictional	-	227.42	4	R4 (INTERMITTENT)
SDS77	Jurisdictional	-	72.73	2	R4 (INTERMITTENT)
SDS78	Jurisdictional	-	551.87	5.5	R4 (INTERMITTENT)
SDS79	Jurisdictional	-	417.20	3	R4 (INTERMITTENT)
SDS88	Jurisdictional	-	2217.38	7	R4 (INTERMITTENT)
SDS96	Jurisdictional	-	624.80	6	R4 (INTERMITTENT)
SDS98	Jurisdictional	-	946.67	3	R4 (INTERMITTENT)
SM	Jurisdictional	-	1254.95	1	R4 (INTERMITTENT)
SMH	Jurisdictional	-	342.66	3	R4 (INTERMITTENT)
SY	Jurisdictional	-	1015.81	3.5	R4 (INTERMITTENT)
SZ	Jurisdictional	-	1687.81	1	R4 (INTERMITTENT)
S001	Jurisdictional	-	161.3	5	R4 (INTERMITTENT)
S004	Jurisdictional	-	287.9	4	R4 (INTERMITTENT)
S009	Jurisdictional	-	86.8	5	R4 (INTERMITTENT)
S010	Jurisdictional	-	1292.2	4.5	R4 (INTERMITTENT)
Total	20.74 acres Jurisdictiona Wetlands		acres Isolate Vetlands	d	42,812 If Streams

Jurisdictional determinations and boundaries when presented are preliminary and are subject to final verification by the USACE.

 $^{^2}$ Classifications are based on Copperhead's professional judgment of actual field conditions.

^{*}Indicates ephemeral (non-regulated) surface connection only. Feature's jurisdictional status dependent on flow regime of tangential feature(s).

Palustrine Emergent (PEM) Wetlands

Sixty-five (65) palustrine emergent (PEM) wetlands were identified within the study area. PEM wetlands are defined as non-tidal areas possessing all three wetland parameters (hydrology, vegetation, soils) with <25% cover of woody species greater than 1m (~3ft) in height. These wetlands commonly appeared as concave depressions within the surrounding landscape. Most PEM wetlands identified within the Study Area supported dominant wetland vegetation consisting primarily of soft rush (*Juncus effusus*), fringed sedge (*Carex crinita*), and bulbous buttercup (*Ranunculus bulbosus*). Soil profiles generally consisted of silty clay soils meeting the criteria for either hydric soil indicator F3 (depleted matrix) or F6 (Depleted Below Dark Surface). Common hydrology indicators within PEM wetlands included surface water, algal mats or crust, oxidized rhizospheres on living roots, drainage patterns, and geomorphic position.

PEM features frequently appeared as isolated depressions, headwater wetlands draining to ephemeral streams, or as linear fringe/floodplain wetlands adjacent to streams that have been subjected to recent or historic tree clearing. Anticipated jurisdictional statuses of each PEM wetlands are listed in Table 1. USACE Wetland Determination forms can be found in Appendix D.

Palustrine Scrub/Shrub (PSS) Wetlands

One (1) palustrine scrub/shrub (PSS) wetland, wetland JMW7, appeared within the Study Area as a linear depression abutting a perennial stream. PSS wetlands are defined as non-tidal areas possessing all three wetland parameters with 25% or more cover of woody saplings and shrubs (woody species greater than 1 meter in height) but possessing less than 25% cover of trees (defined as woody species measuring greater than 3in diameter at breast height [DBH]). JMW7 supported a mix of wetland and upland vegetation consisting primarily of soft rush (*Juncus effusus*), fringed sedge (*Carex crinita*), American beech (*Fagus grandifolia*), amur honeysuckle (*Lonicera maackii*), and sawtooth blackberry (*Rubus argutus*). The soil profile of JMW7 consisted of silty clay soils meeting hydric soil indicator F3 (depleted matrix). Hydrology indicators within this feature included surface water, saturation, and geomorphic position.

Palustrine Forested (PFO) Wetlands

Thirteen (13) palustrine forested (PFO) wetlands were located within the study area. PFO wetlands are defined as non-tidal areas possessing all three wetland parameters with 25% or greater cover of woody vegetation measuring greater than 3in DBH. PFO wetlands commonly appeared as concave depressions and flats within forested sections of the surrounding landscape, often located adjacent to streams and ponds where tree clearing has been limited in recent (10+) years. Most PFO wetlands identified within the Study Area supported a mix of wetland and upland vegetation consisting primarily of silver maple (*Acer saccharinum*), sweetgum (*Liquidambar styraciflua*), American sycamore (*Platanus occidentalis*), white oak (*Quercus alba*), and American beech (*Fagus grandifolia*) in the canopy, with sparse understories and limited herbaceous vegetation. Soil profiles generally consisted of silty clay loam soils meeting the necessary criteria for either hydric soil indicator F3 (depleted matrix) or F6 (Depleted Below Dark Surface). Common hydrology indicators within PFO wetlands included surface water, high water table, saturation, water-stained leaves, and geomorphic position.

PFO features frequently appeared as isolated depressions, headwater wetlands lacking relatively permanent downstream connections, or as linear fringe/floodplain wetlands adjacent to streams. Anticipated jurisdictional statuses of each PFO wetland are listed in Table 1, USACE Wetland Determination forms can be found in Appendix D.

Palustrine features with Unconsolidated Bottoms (PUB) e.g., Lakes and Ponds

Nine features within the Study Area were identified as open water, palustrine unconsolidated bottom (PUB) habitat. Hydrologic inputs for these features consisted of overland sheet flow, input from intermittent streams or other drainage features, and adjacent wetlands within the Study Area. Vegetation was not present within PUB portions of the wetlands at the time of survey, and boundaries between PUB and PEM ro PFO components wetland features were defined based on the presence of hydrophytic vegetation (see PEM and PFO wetlands above).

PUB features appeared as both isolated ponds excavated entirely within uplands, and as impoundments of wetlands and/or waterbodies within natural valleys. Anticipated jurisdictional statuses of each PUB wetland are defined based on whether the feature possessed a direct overland or culverted connection to relatively permanent waters downstream. The anticipated jurisdictional status of each PUB feature is listed in Table 1. USACE wetland determination forms were not completed within PUB features; however, determination forms within adjacent PEM of PFO wetlands were collected and can be found in Appendix D.

Ephemeral (R6) Drainages

Two hundred eighty (280) ephemeral drainage features were identified within the Study Area. Ephemeral features were field defined based on geomorphological, biological, and hydrologic components that indicate the duration of flow within a channel over the course of a normal climatic year. Examples of these components include the continuity of bed and bank, presence and abundance of aquatic macroinvertebrates, presence of rooted vegetation within the channel, and presence of flowing water within the channel during normal climatic/hydrologic conditions. Ephemeral streams frequently drain into intermittent or perennial waters within the study area or offsite, with some features terminating in isolated ponds or depressions. Ephemeral features generally exhibit some characteristics of bed and bank but lack the biological or hydrologic indicators of intermittent or perennial flow. Additionally, the majority of ephemeral streams onsite are found on steep slopes, and lacked standing or flowing water during normal conditions at the time of survey or hydric soils within the channel bed. Average channel width varies from one to twelve feet wide; however, approximately 240 (85%) of the ephemeral channels measure less than three feet wide. Ephemeral channels were documented photographically to provide examples of field indicators observed for determinations; however they are not included as aquatic resources within Table 1.

Intermittent (R4) Streams

Thirty-five (35) intermittent streams were identified within the Study Area, and were field defined based on geomorphological, biological, and hydrologic components that indicate the duration of flow within a channel over the course of a normal climatic year. Examples of these components include the continuity of bed and bank, hydric soil presence within the channel bed, presence and abundance of aquatic macroinvertebrates, presence of rooted vegetation within the

channel, and presence of flowing water within the channel during normal climatic/hydrologic conditions. Intermittent streams frequently received hydrology from abutting wetlands or other tributaries and drained to perennial waters within the study area or offsite. These streams exhibit characteristics of both bed and bank, with higher levels of erosion and channelization than R6 features. Average OHWM width varies from 1ft to 7ft wide and standing or flowing water was present in the channels generally present during normal conditions at the time of survey. Information for each intermittent (R4) stream can be found in Table 1.

Upper Perennial (R3) Streams

Thirteen (13) upper perennial streams were identified within the Study Area, and were field defined based on geomorphological, biological, and hydrologic components that indicate the duration of flow within a channel over the course of a normal climatic year. Examples of these components include the continuity of bed and bank, presence and abundance of fish or aquatic macroinvertebrates, presence of rooted vegetation within the channel, and presence of flowing water within the channel during normal climatic/hydrologic conditions. Features defined as Upper Perennial (R3) frequently had rocky bottoms and appeared in areas of higher elevation change with little floodplain development. The perennial streams appear as tributaries to Rocky Creek, with confluences occurring offsite. These streams exhibit characteristics of both bed and bank, and slight erosion and channelization. Average OHWM widths varying from 3.5ft to 11ft and standing or flowing water was present in the channels during normal conditions at the time of survey. Some fish were noted while assessing these streams, along with continuous flowing water and a well-defined channel. Information for each perennial (R3) stream can be found in Table 1.

4 CONCLUSIONS

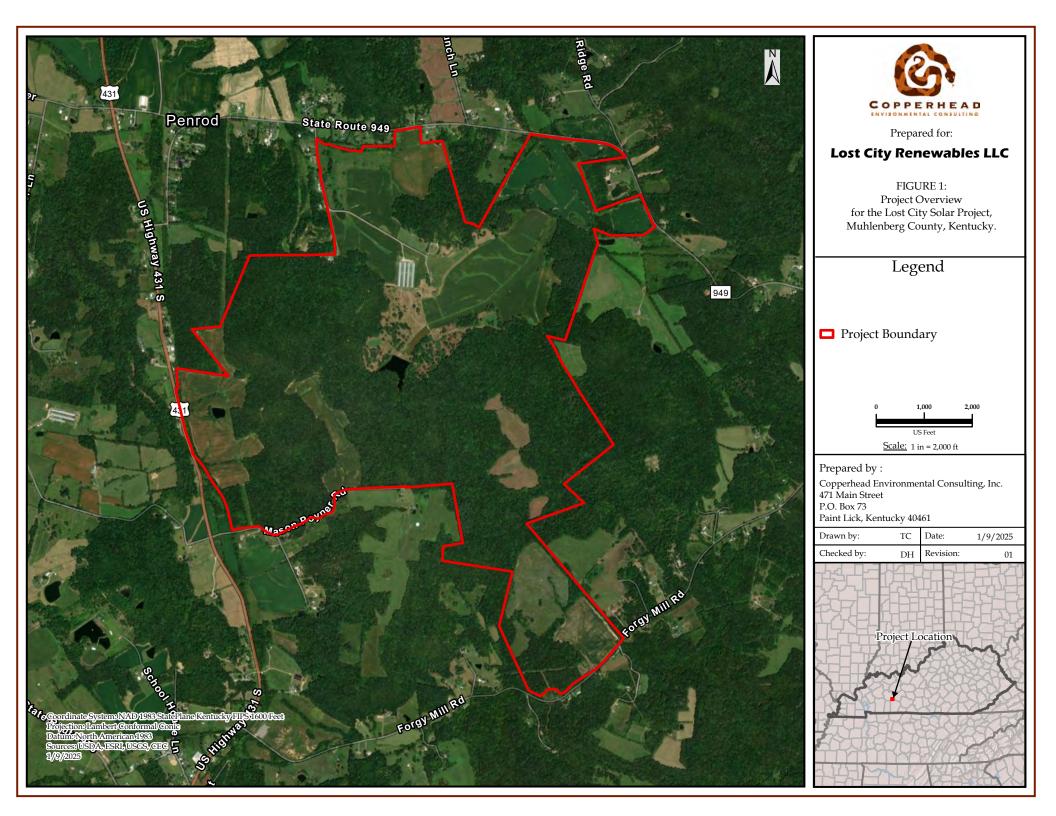
It is Copperhead's professional opinion that the Study Area contains seventy-nine (79) wetlands, nine ponds, thirteen perennial streams, 35 intermittent streams, and 280 ephemeral channels were identified within the Study Area. Of the seventy-nine (79) wetlands identified, fifty-six (56) do not possess a continuous and indistinguishable connection to downstream WOTUS and would be considered isolated and are likely non-jurisdictional. The remaining twenty-three (23) wetlands either abut a perennial stream or possess a relatively permanent surface water connection to a downstream WOTUS and would be considered jurisdictional. The thirteen perennial streams and 35 intermittent streams identified within the Study Area are relatively permanent waterbodies with downstream connections to WOTUS and are therefore likely considered jurisdictional WOTUS. The two hundred eighty (280) ephemeral features identified within the Study Area appear to flow only in direct response to rainfall events and would likely be considered non-jurisdictional features by the USACE.

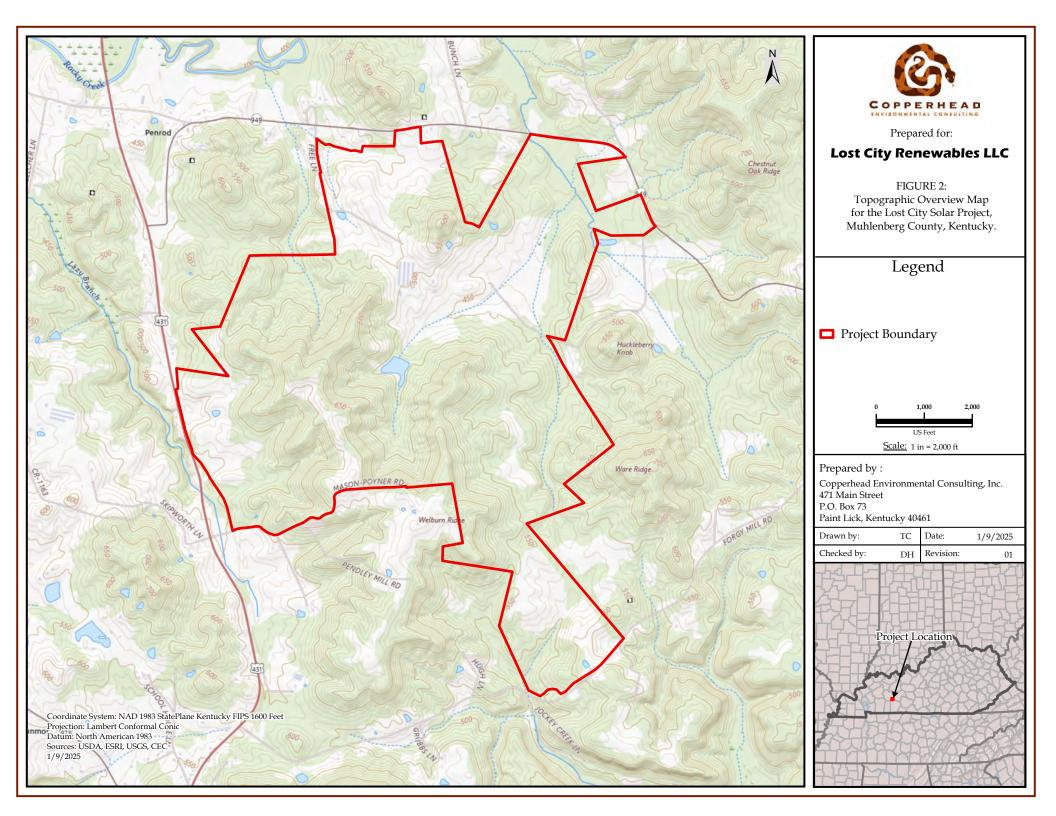
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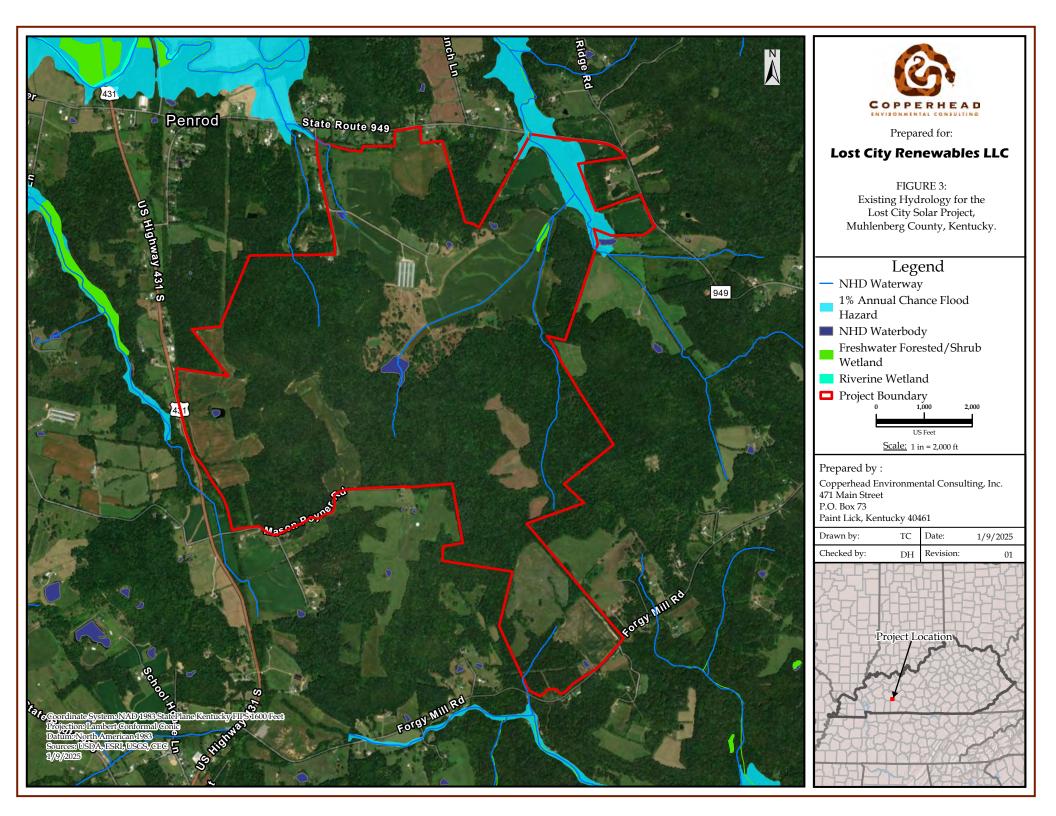
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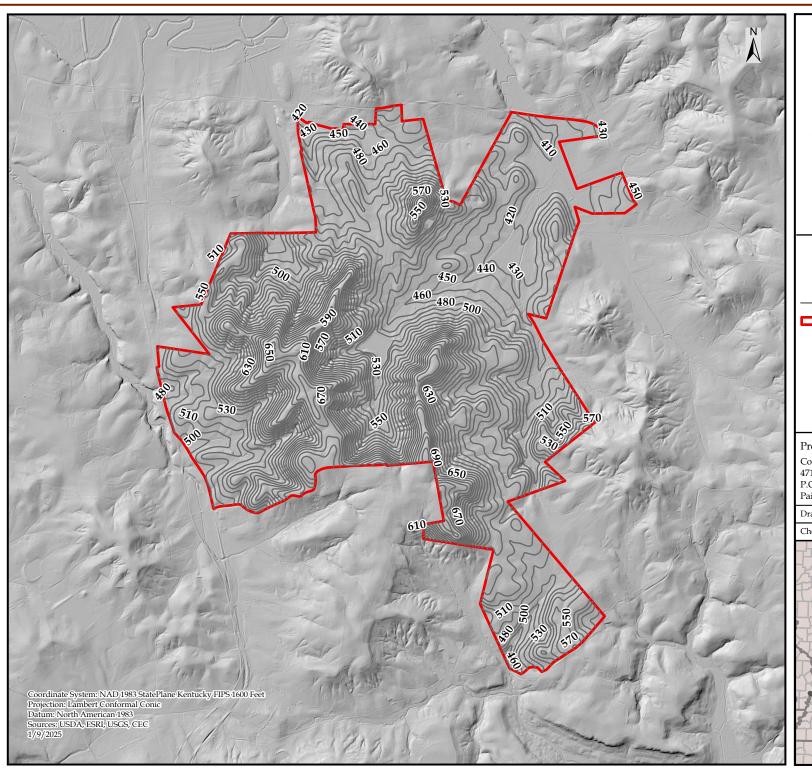
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Appendix A Figures











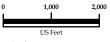
Prepared for:

Lost City Renewables LLC

FIGURE 4: Digital Elevation Model and Elevation Contours for the Lost City Solar Project, Muhlenberg County, Kentucky.

Legend

- Elevation Contour
- ☐ Project Boundary

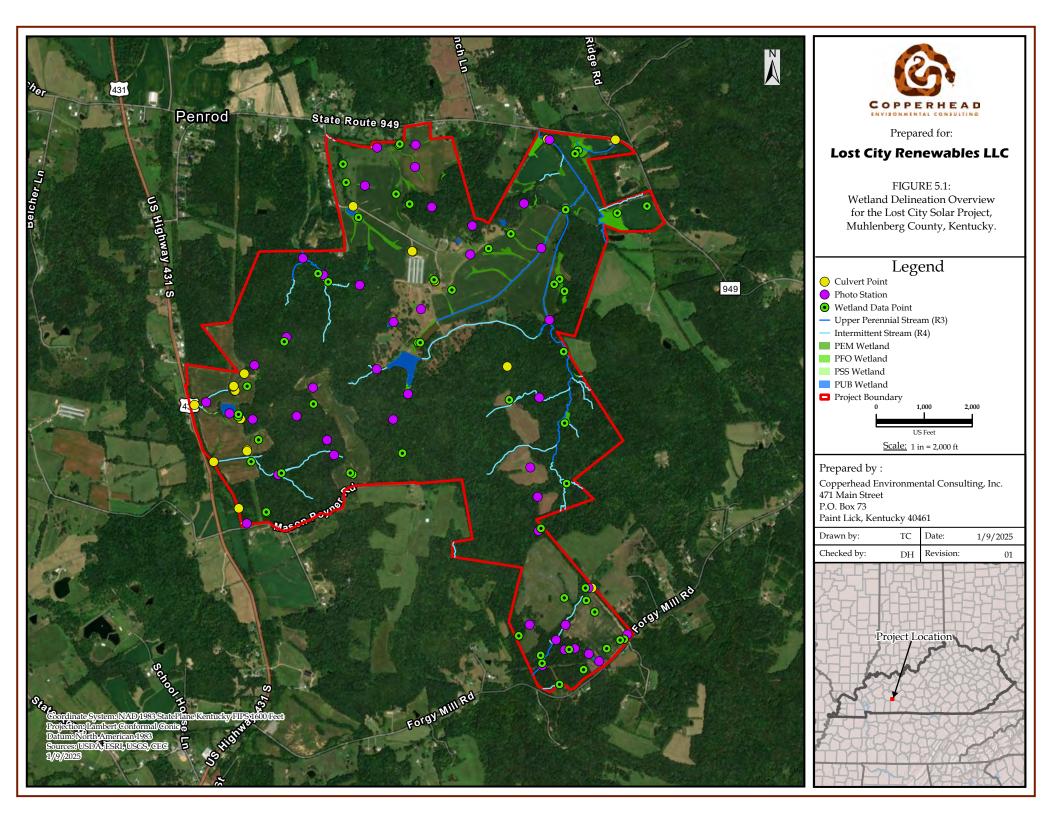


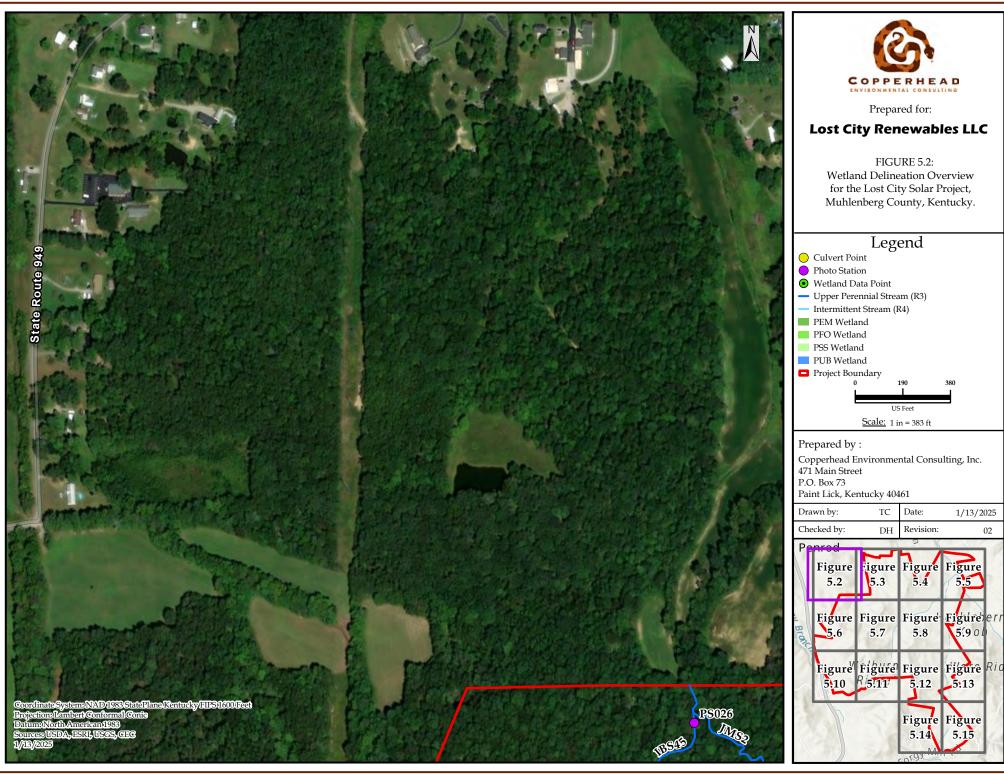
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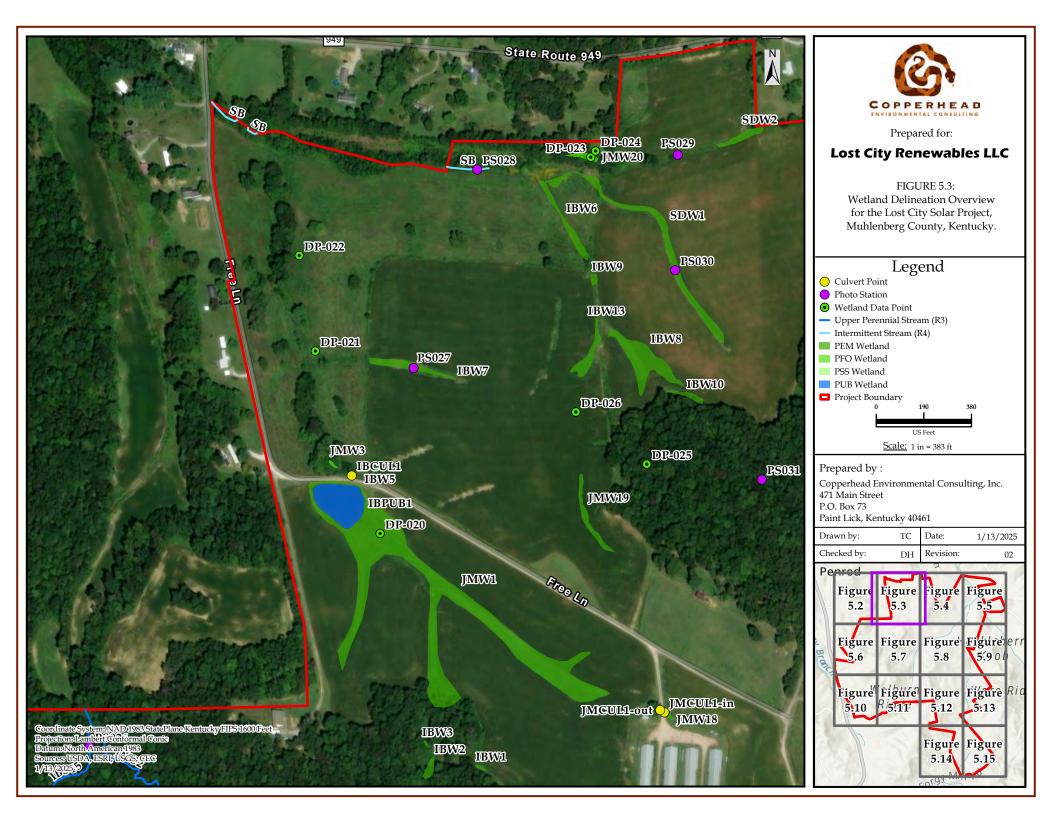
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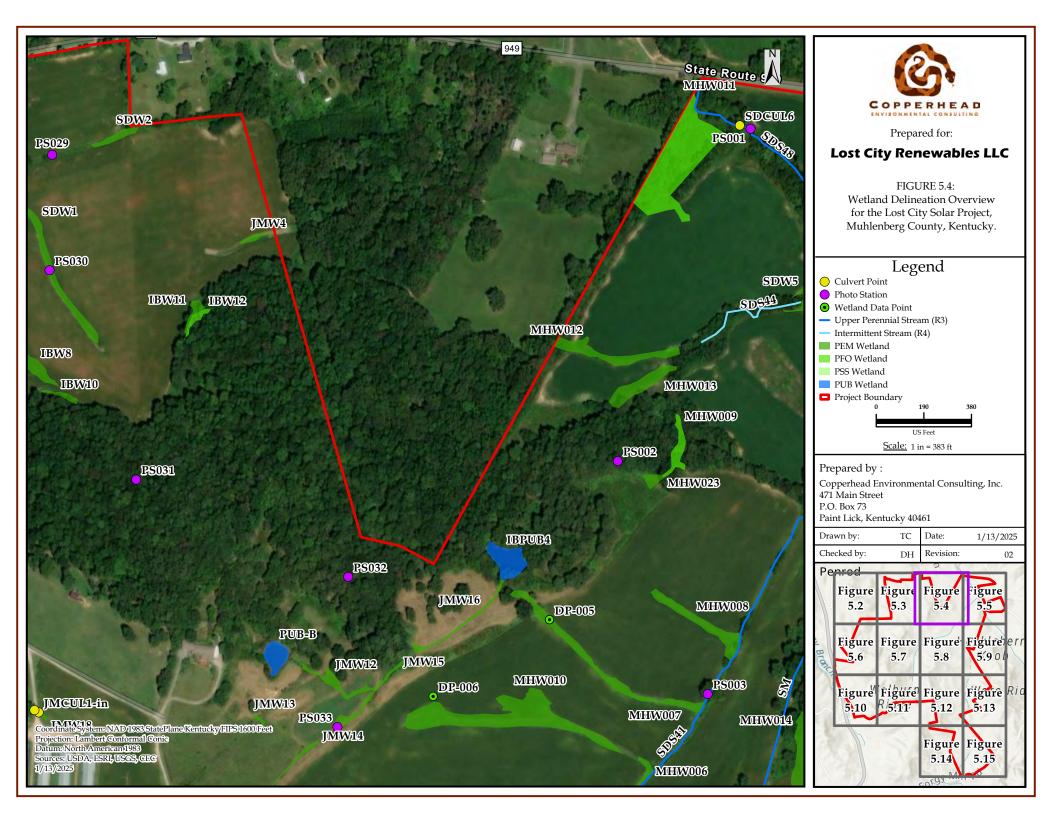
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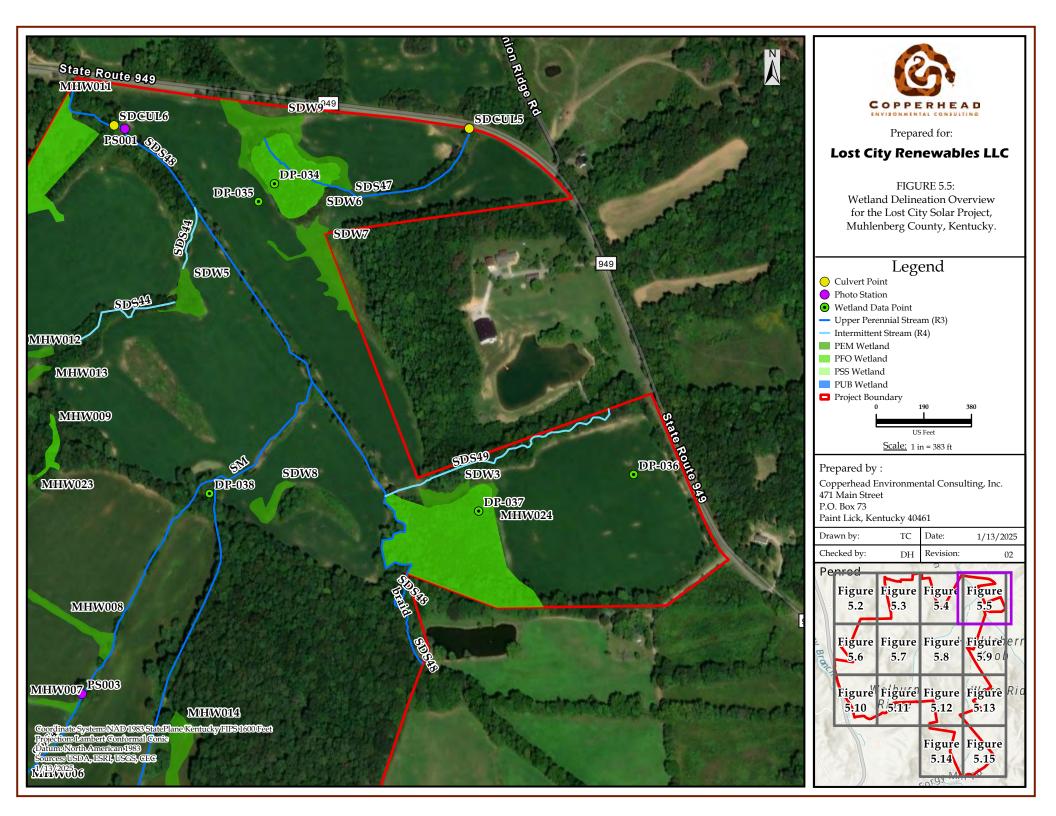


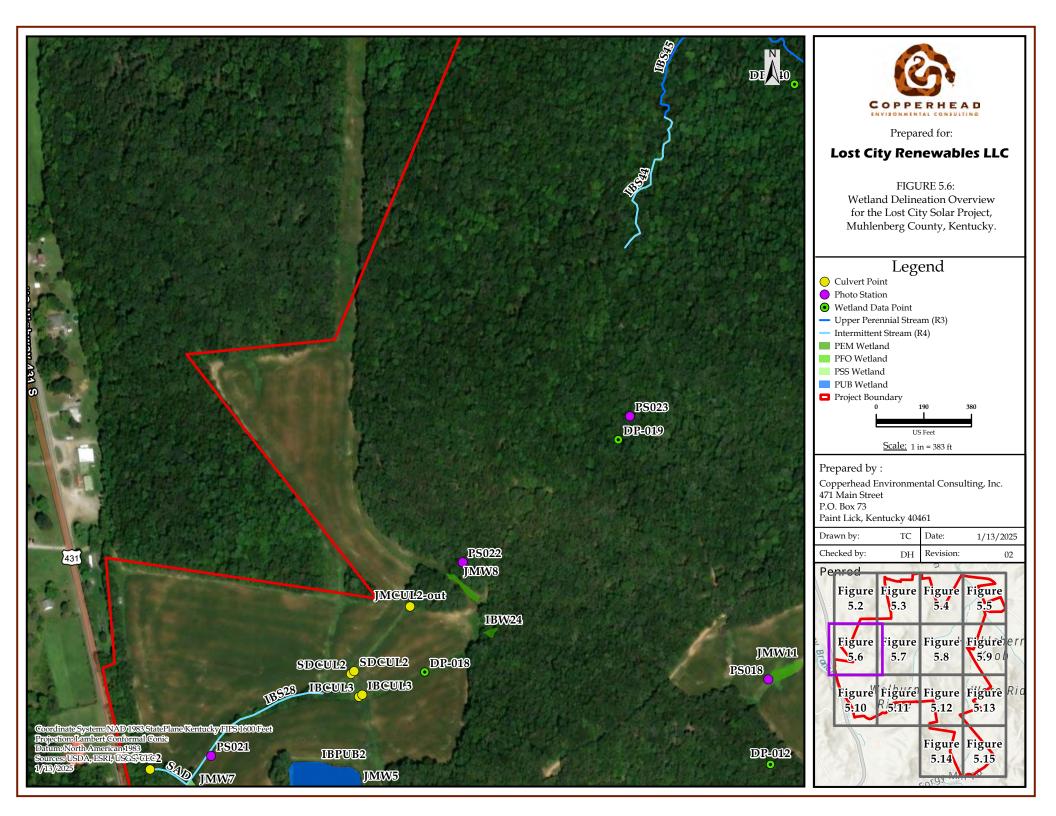


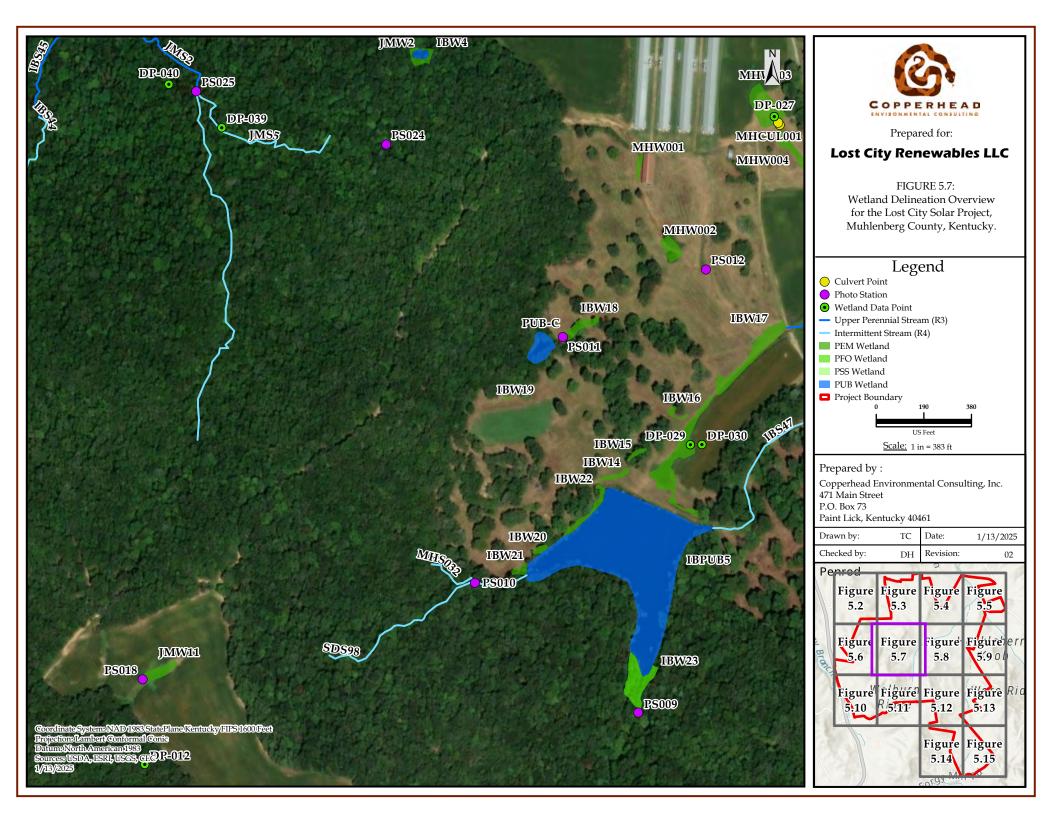
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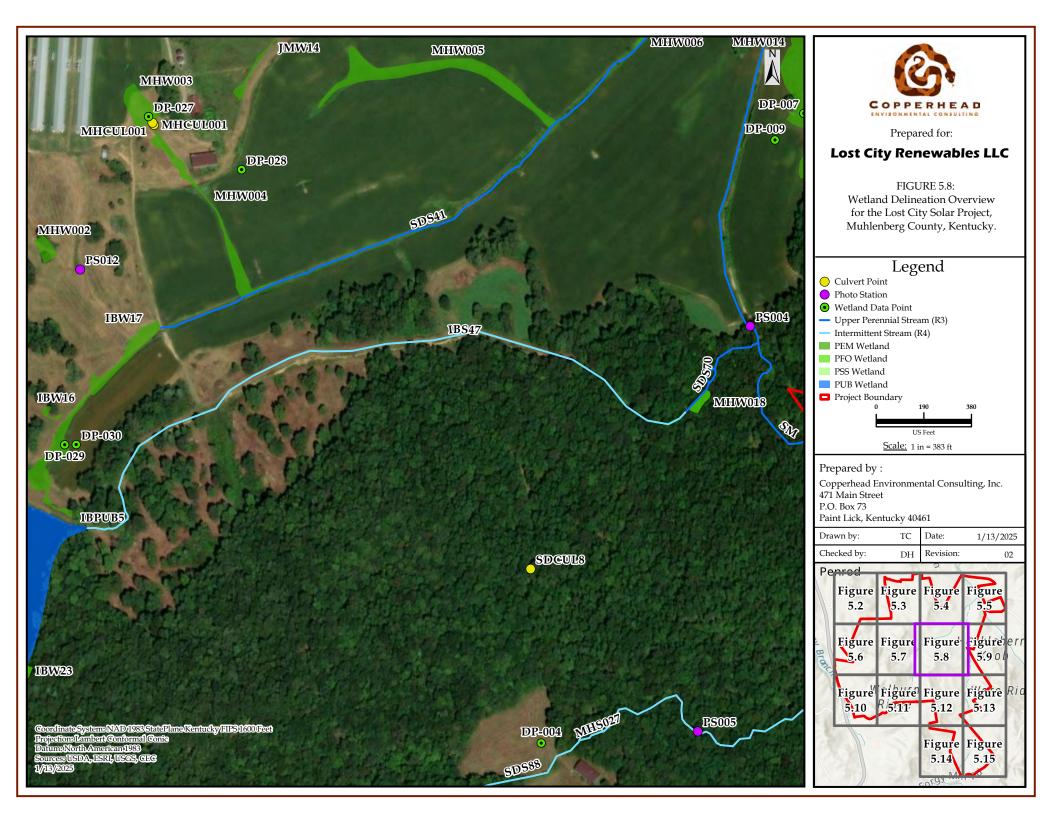


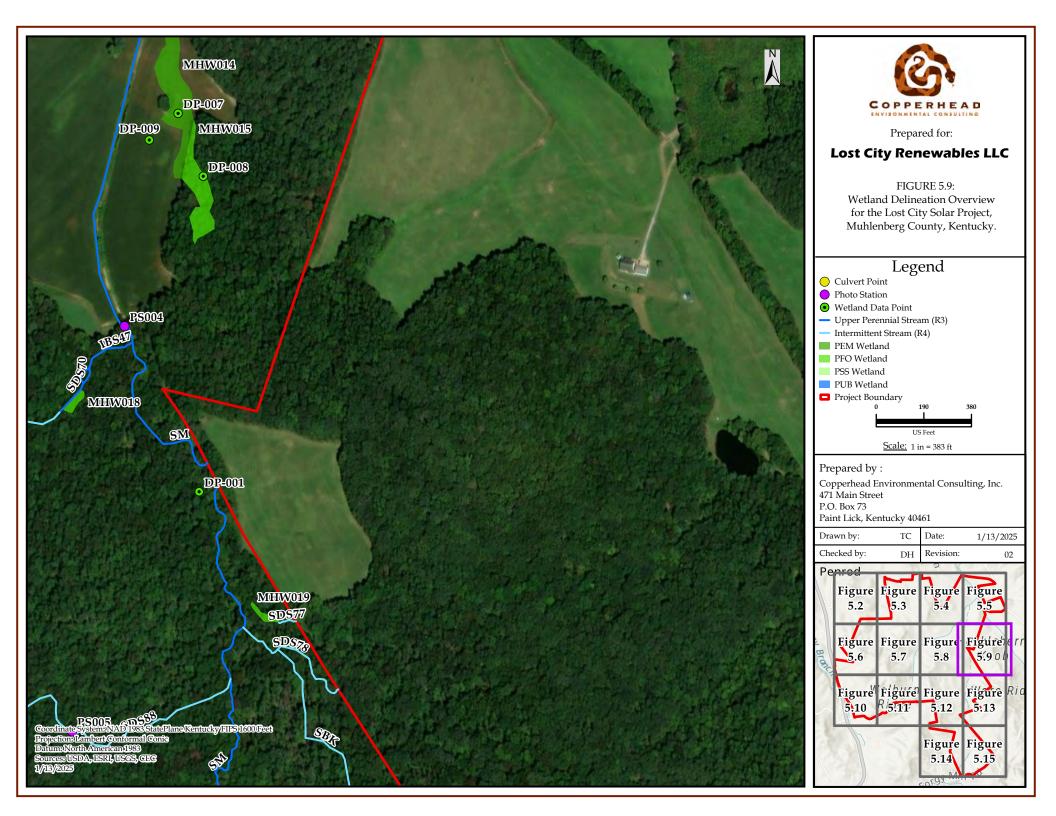


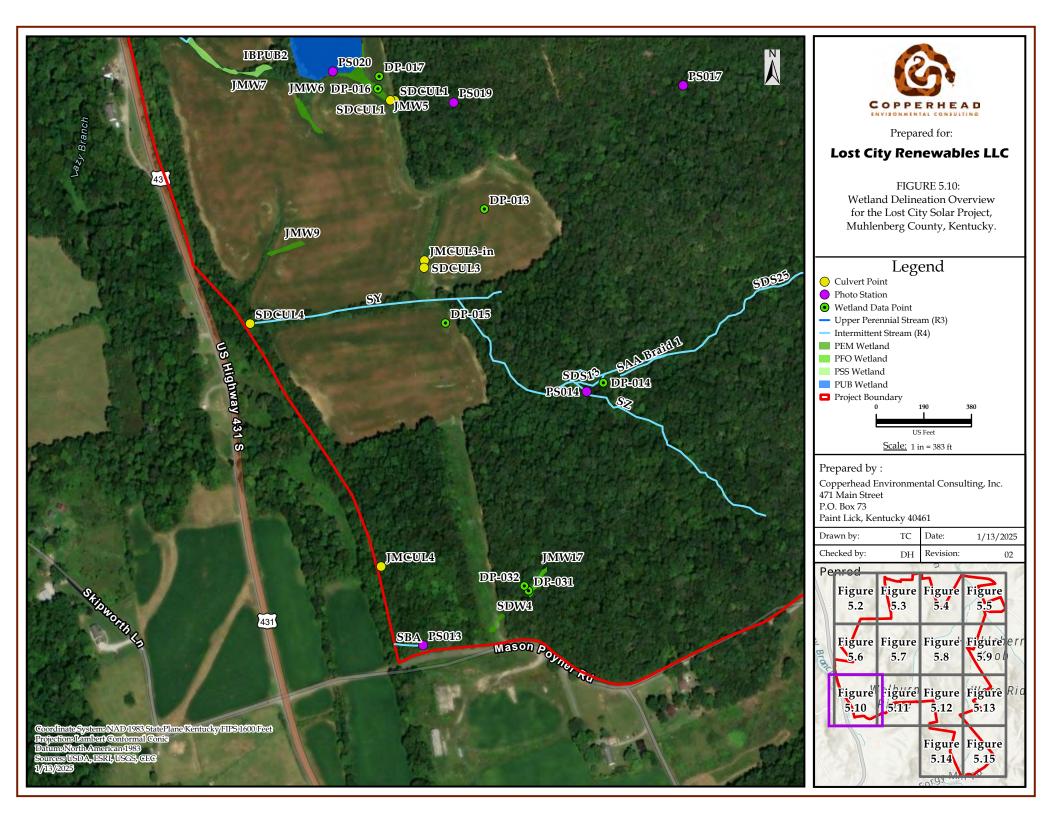


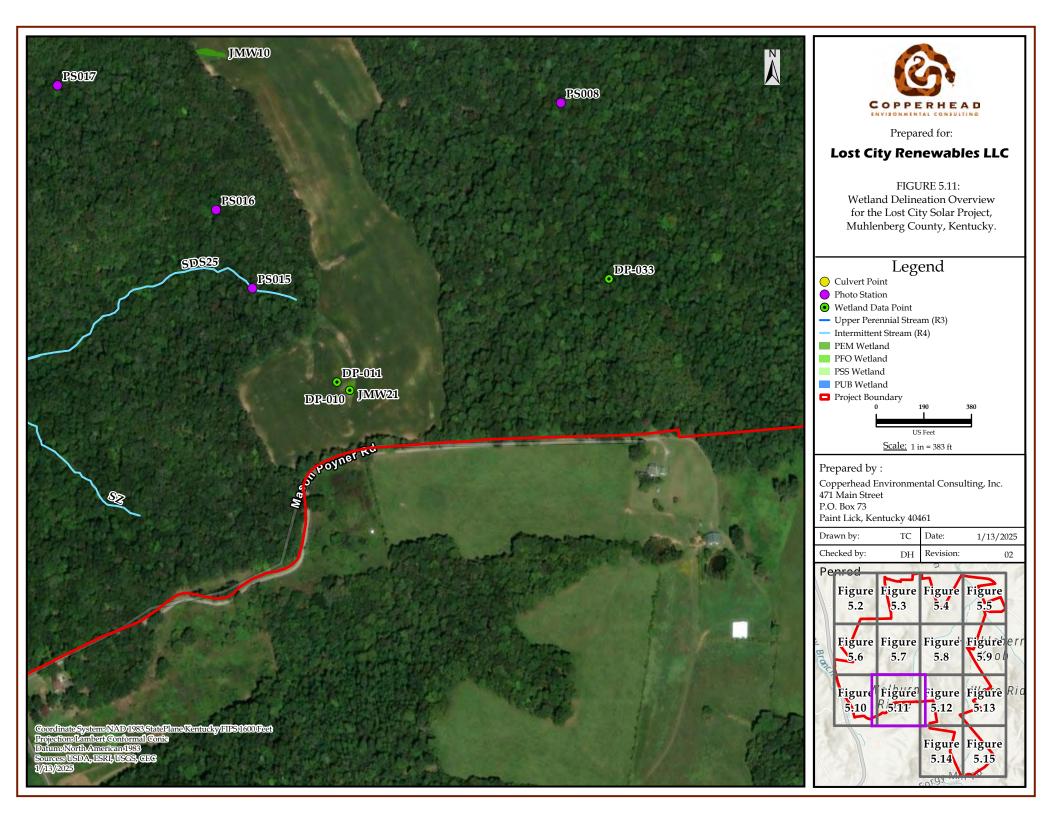


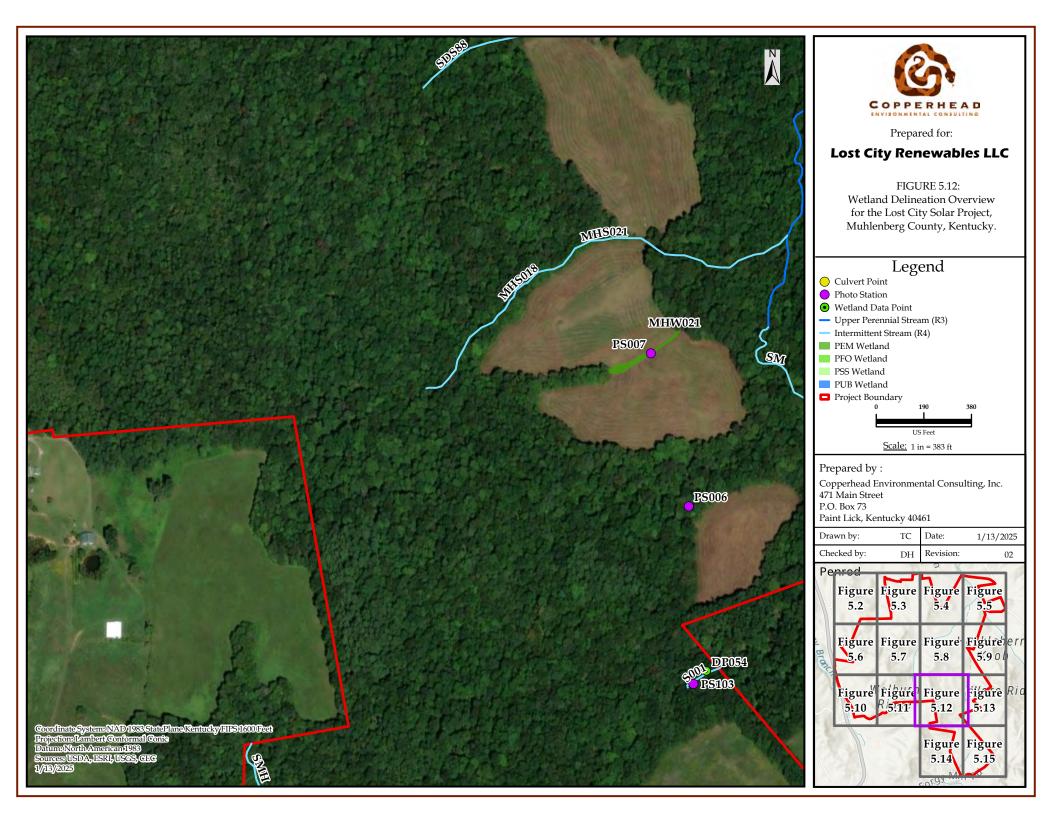


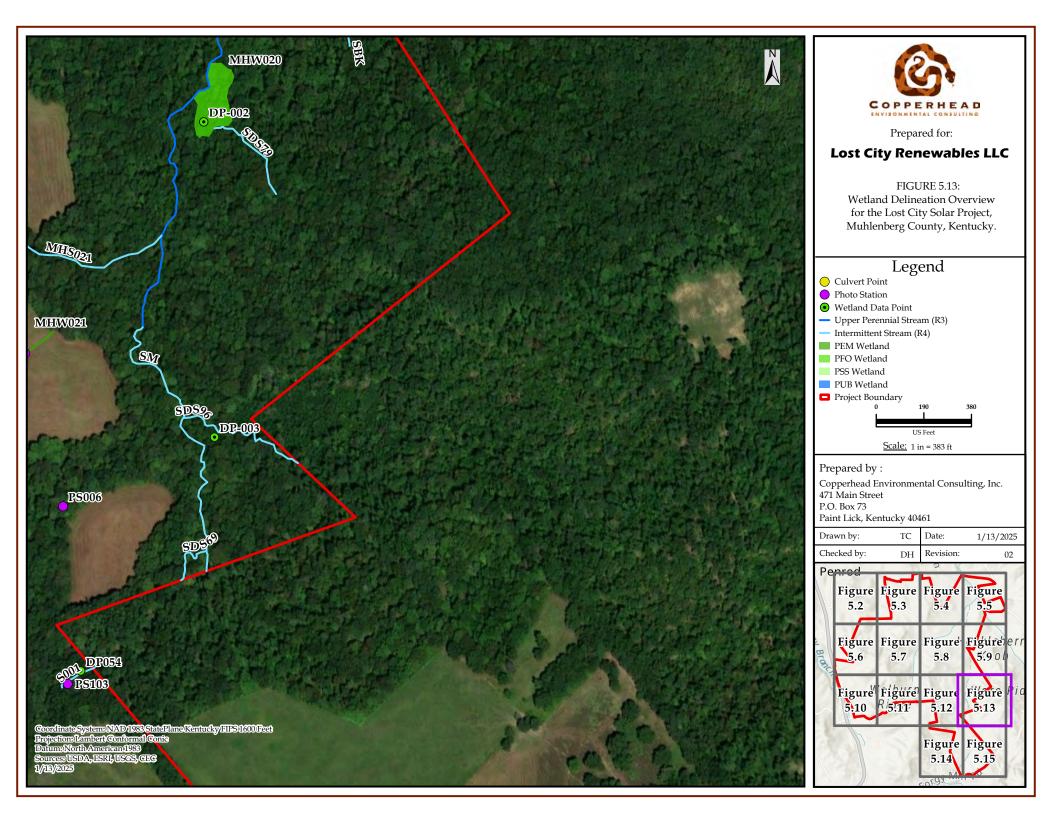


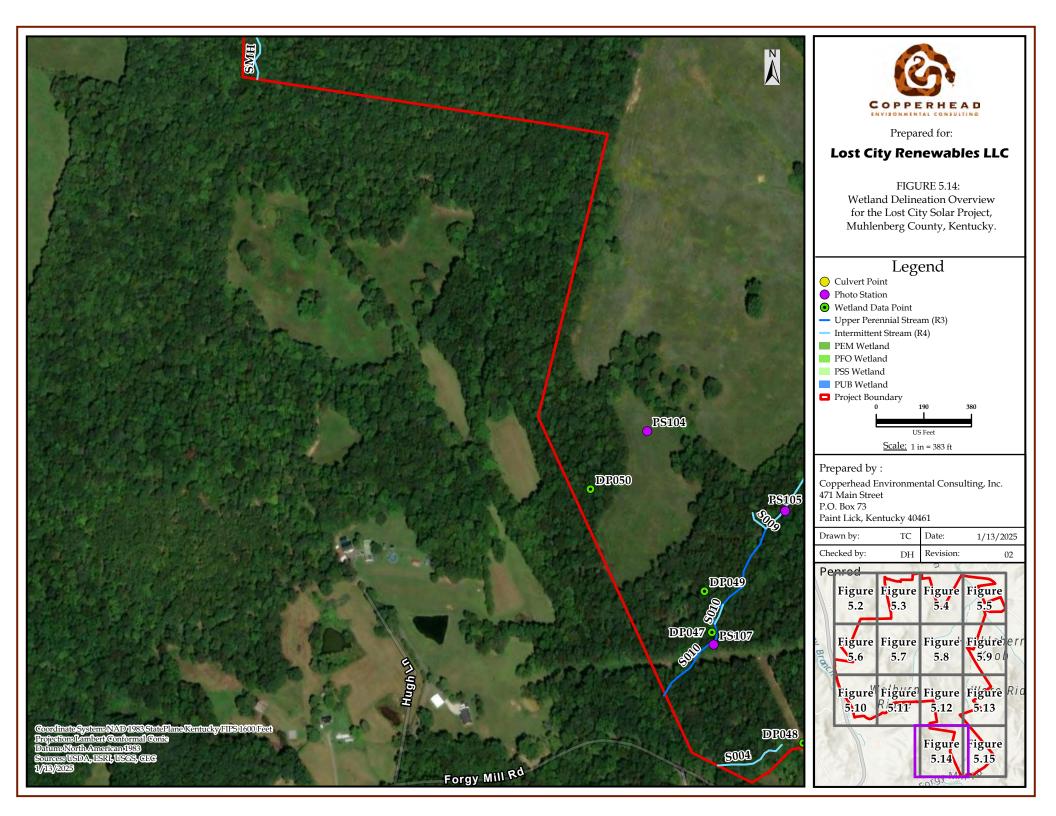


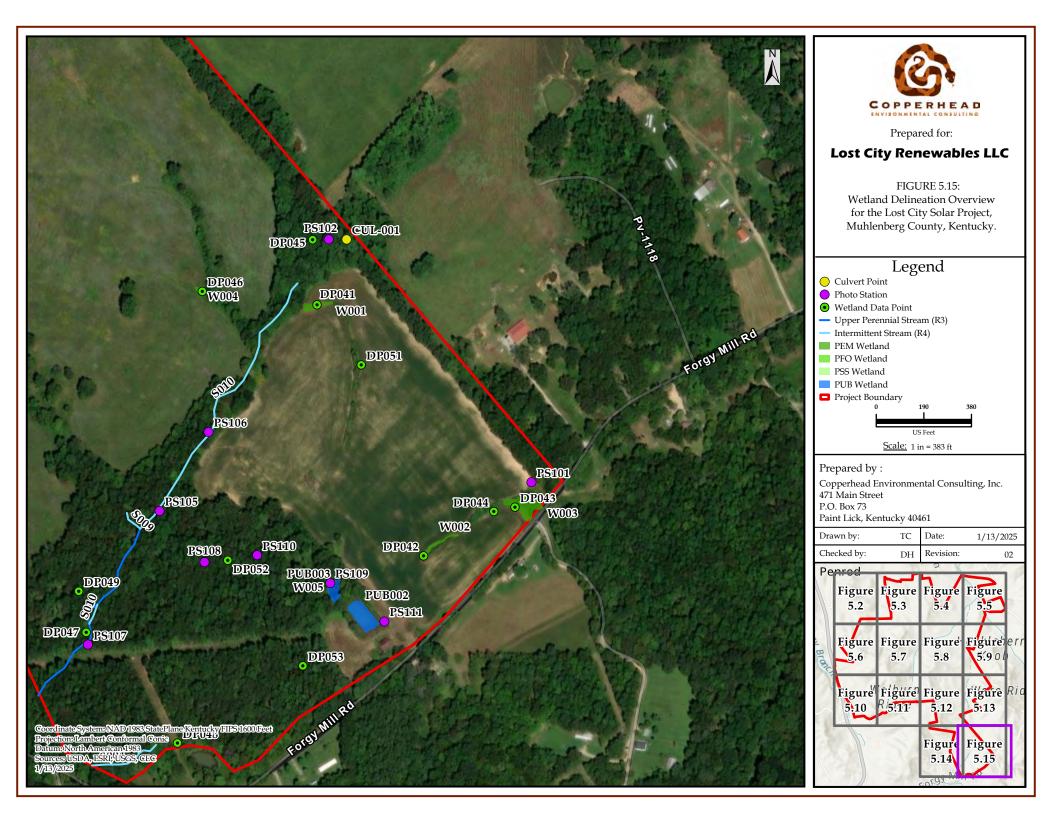


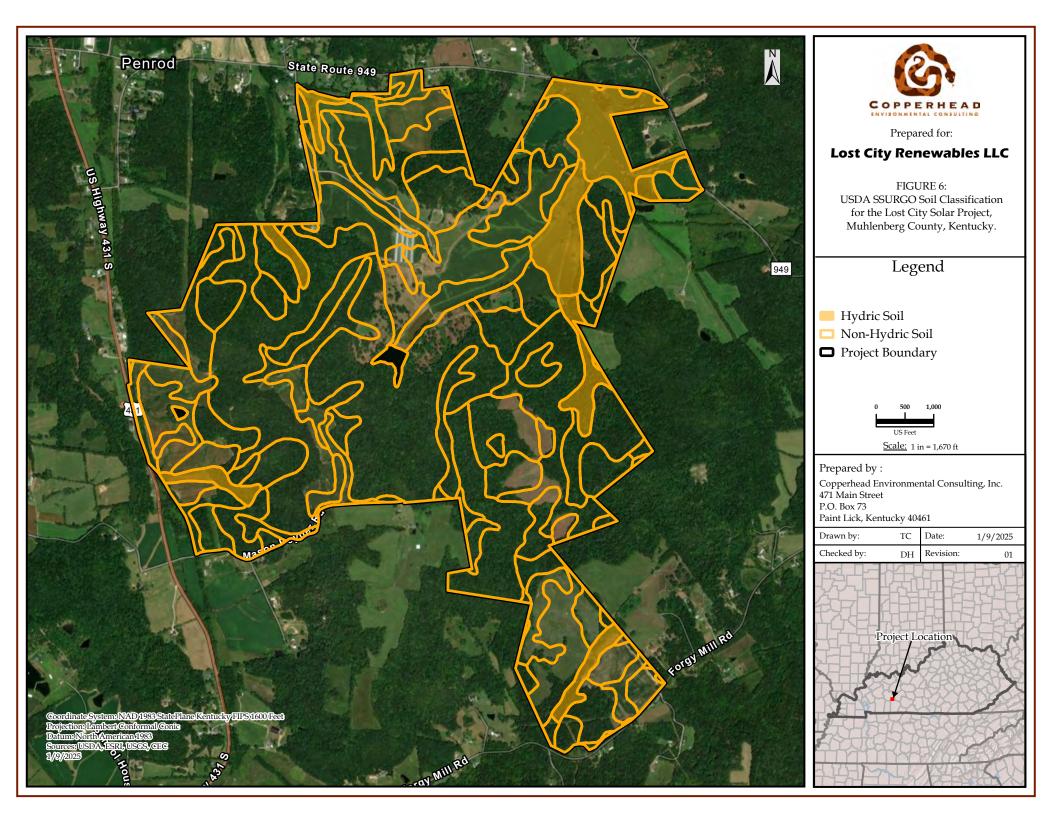














NRCS

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for McLean and Muhlenberg Counties, Kentucky



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

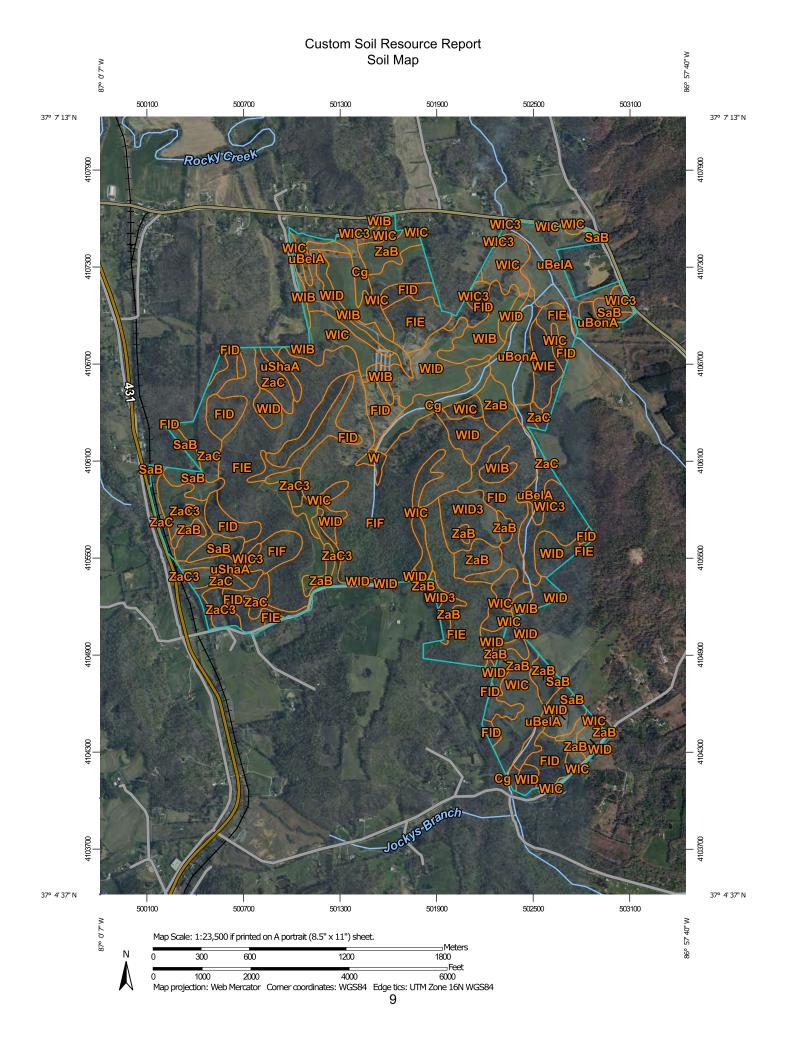
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

Special Line Features Streams and Canals Interstate Highways Very Stony Spot Major Roads Local Roads Stony Spot US Routes Spoil Area Wet Spot Other Rails Water Features **Fransportation 3ackground** W ŧ Soil Map Unit Polygons Area of Interest (AOI) Soil Map Unit Points Soil Map Unit Lines Closed Depression Special Point Features **Gravelly Spot** Borrow Pit Lava Flow Clay Spot **Gravel Pit** Area of Interest (AOI) Blowout Landfill Soils

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1.20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: McLean and Muhlenberg Counties, Kentucky Survey Area Data: Version 22, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Aerial Photography

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot Sandy Spot

Date(s) aerial images were photographed: Apr 10, 2023—Oct 10, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Severely Eroded Spot

Slide or Slip

Sinkhole

Sodic Spot

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cg	Clifty gravelly silt loam, 0 to 2 percent slopes, occasionally flooded	32.0	2.3%
FID	Frondorf-Lenberg complex, 12 to 20 percent slopes	165.2	12.0%
FIE	Frondorf-Lenberg complex, 20 to 30 percent slopes	215.7	15.7%
FIF	Frondorf-Lenberg complex, 30 to 50 percent slopes	182.1	13.3%
SaB	Sadler silt loam, 2 to 6 percent slopes	30.1	2.2%
uBelA	Belknap silt loam, 0 to 2 percent slopes, occasionally flooded	72.2	5.3%
uBonA	Bonnie silt loam, 0 to 2 percent slopes, occasionally flooded	32.4	2.4%
uShaA	Sharon silt loam, 0 to 2 percent slopes, occasionally flooded	14.7	1.1%
W	Water	4.9	0.4%
WIB	Wellston silt loam, 2 to 6 percent slopes	57.6	4.2%
WIC	Wellston silt loam, 6 to 12 percent slopes	165.4	12.0%
WIC3	Wellston silt loam, 6 to 12 percent slopes, severely eroded	39.2	2.9%
WID	Wellston silt loam, 12 to 20 percent slopes	128.2	9.3%
WID3	Wellston silt loam, 12 to 30 percent slopes, severely eroded	28.3	2.1%
WIE	Wellston silt loam, 20 to 30 percent slopes	16.0	1.2%
ZaB	Zanesville silt loam, 2 to 6 percent slopes	87.0	6.3%
ZaC	Zanesville silt loam, 6 to 12 percent slopes	55.3	4.0%
ZaC3	Zanesville silt loam, 6 to 12 percent slopes, severely eroded	47.6	3.5%
Totals for Area of Interest		1,374.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into soil phases. Most of the areas

shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

McLean and Muhlenberg Counties, Kentucky

Cg—Clifty gravelly silt loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2r14j Elevation: 380 to 760 feet

Mean annual precipitation: 38 to 58 inches Mean annual air temperature: 44 to 69 degrees F

Frost-free period: 154 to 212 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Clifty, occasionally flooded, and similar soils: 86 percent

Minor components: 14 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Clifty, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Acid fine-loamy alluvium

Typical profile

Ap - 0 to 8 inches: gravelly silt loam Bw - 8 to 30 inches: gravelly silt loam C - 30 to 80 inches: gravelly loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00

in/hr)

Depth to water table: About 60 to 80 inches

Frequency of flooding: Occasional Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A

Ecological site: F120AY015KY - Loamy Alluvial Headwaters

Hydric soil rating: No

Minor Components

Skidmore, occasionally flooded

Percent of map unit: 6 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear

Hydric soil rating: No

Blackford, occasionally flooded

Percent of map unit: 4 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Sharon, occasionally flooded

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Cuba, occasionally flooded

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

FID—Frondorf-Lenberg complex, 12 to 20 percent slopes

Map Unit Setting

National map unit symbol: Ihgd Elevation: 360 to 760 feet

Mean annual precipitation: 30 to 55 inches Mean annual air temperature: 46 to 68 degrees F

Frost-free period: 168 to 212 days

Farmland classification: Not prime farmland

Map Unit Composition

Frondorf and similar soils: 45 percent Lenberg and similar soils: 35 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Frondorf

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Convex

Parent material: Thin fine-loamy noncalcareous loess over loamy residuum

weathered from sandstone and siltstone

Typical profile

H1 - 0 to 20 inches: silt loam

H2 - 20 to 32 inches: channery silt loam R - 32 to 42 inches: unweathered bedrock

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: F120AY004KY - Loess Veneered Sandstone-Shale Uplands

Hydric soil rating: No

Description of Lenberg

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Convex

Parent material: Clayey residuum weathered from acid shale

Typical profile

H1 - 0 to 4 inches: silt loam
H2 - 4 to 18 inches: silty clay loam
H3 - 18 to 25 inches: silty clay

H4 - 25 to 35 inches: very gravelly silty clay Cr - 35 to 45 inches: weathered bedrock

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: F120AY005KY - Moderately Deep Sandstone-Shale Uplands

Hydric soil rating: No

Minor Components

Wellston

Percent of map unit: 10 percent

Hydric soil rating: No

Other soils

Percent of map unit: 10 percent

Hydric soil rating: No

FIE—Frondorf-Lenberg complex, 20 to 30 percent slopes

Map Unit Setting

National map unit symbol: Ihgf Elevation: 360 to 760 feet

Mean annual precipitation: 30 to 55 inches
Mean annual air temperature: 46 to 68 degrees F

Frost-free period: 168 to 212 days

Farmland classification: Not prime farmland

Map Unit Composition

Frondorf and similar soils: 45 percent Lenberg and similar soils: 35 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Frondorf

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thin fine-loamy noncalcareous loess over loamy residuum

weathered from sandstone and siltstone

Typical profile

H1 - 0 to 20 inches: silt loam

H2 - 20 to 32 inches: channery silt loam R - 32 to 42 inches: unweathered bedrock

Properties and qualities

Slope: 20 to 30 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: F120AY004KY - Loess Veneered Sandstone-Shale Uplands

Hydric soil rating: No

Description of Lenberg

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Clayey residuum weathered from acid shale

Typical profile

H1 - 0 to 4 inches: silt loam
H2 - 4 to 18 inches: silty clay loam
H3 - 18 to 25 inches: silty clay

H4 - 25 to 35 inches: very gravelly silty clay Cr - 35 to 45 inches: weathered bedrock

Properties and qualities

Slope: 20 to 30 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: F120AY005KY - Moderately Deep Sandstone-Shale Uplands

Hydric soil rating: No

Minor Components

Wellston

Percent of map unit: 5 percent

Hydric soil rating: No

Other soils

Percent of map unit: 5 percent

Hydric soil rating: No

Zanesville

Percent of map unit: 5 percent

Hydric soil rating: No

Collins

Percent of map unit: 3 percent

Hydric soil rating: No

Clifty

Percent of map unit: 2 percent

Hydric soil rating: No

FIF—Frondorf-Lenberg complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: Ihgg Elevation: 350 to 730 feet

Mean annual precipitation: 30 to 55 inches Mean annual air temperature: 46 to 68 degrees F

Frost-free period: 168 to 212 days

Farmland classification: Not prime farmland

Map Unit Composition

Frondorf and similar soils: 45 percent Lenberg and similar soils: 20 percent Minor components: 35 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Frondorf

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thin fine-loamy noncalcareous loess over loamy residuum

weathered from sandstone and siltstone

Typical profile

H1 - 0 to 20 inches: silt loam

H2 - 20 to 32 inches: channery silt loam R - 32 to 42 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Ecological site: F120AY004KY - Loess Veneered Sandstone-Shale Uplands

Hydric soil rating: No

Description of Lenberg

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Clayey residuum weathered from acid shale

Typical profile

H1 - 0 to 4 inches: silt loam H2 - 4 to 18 inches: silty clay loam H3 - 18 to 25 inches: silty clay

H4 - 25 to 35 inches: very gravelly silty clay Cr - 35 to 45 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Ecological site: F120AY005KY - Moderately Deep Sandstone-Shale Uplands

Hydric soil rating: No

Minor Components

Wellston

Percent of map unit: 10 percent

Hydric soil rating: No

Zanesville

Percent of map unit: 10 percent

Hydric soil rating: No

Clifty

Percent of map unit: 5 percent

Hydric soil rating: No

Collins

Percent of map unit: 5 percent

Hydric soil rating: No

Other soils

Percent of map unit: 5 percent

Hydric soil rating: No

SaB—Sadler silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2vtzl Elevation: 360 to 990 feet

Mean annual precipitation: 30 to 58 inches Mean annual air temperature: 44 to 69 degrees F

Frost-free period: 157 to 213 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Sadler and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sadler

Setting

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over loamy residuum

weathered from sandstone and shale

Typical profile

Ap - 0 to 7 inches: silt loam
Bt - 7 to 20 inches: silt loam
E/B - 20 to 24 inches: silt loam
2Btx - 24 to 62 inches: silt loam

2C - 62 to 76 inches: very gravelly fine sandy loam

2R - 76 to 86 inches: bedrock

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 22 to 31 inches to fragipan; 72 to 80 inches to lithic

bedrock

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.13 in/hr)

Depth to water table: About 19 to 28 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C/D

Ecological site: F120AY002KY - Fragipan Uplands

Hydric soil rating: No

Minor Components

Zanesville

Percent of map unit: 7 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Robbs

Percent of map unit: 4 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Wellston

Percent of map unit: 4 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

uBelA—Belknap silt loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2s2cn

Elevation: 300 to 700 feet

Mean annual precipitation: 30 to 58 inches Mean annual air temperature: 45 to 69 degrees F

Frost-free period: 164 to 240 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Belknap, occasionally flooded, and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Belknap, Occasionally Flooded

Setting

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Acid coarse-silty alluvium

Typical profile

Ap - 0 to 3 inches: silt loam
Bw - 3 to 9 inches: silt loam
Bg - 9 to 77 inches: silt loam
BCg - 77 to 100 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 12 to 18 inches

Frequency of flooding: Occasional Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 13.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Ecological site: F120AY019KY - Moist Silty Alluvium

Hydric soil rating: No

Minor Components

Wakeland, occasionally flooded

Percent of map unit: 6 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Bonnie, occasionally flooded

Percent of map unit: 4 percent

Landform: Flood plains

Landform position (three-dimensional): Dip

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Sharon, occasionally flooded

Percent of map unit: 4 percent

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Stendal, occasionally flooded

Percent of map unit: 4 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Belknap, frequently (hydric)

Percent of map unit: 2 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

uBonA—Bonnie silt loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2vp3j

Elevation: 310 to 820 feet

Mean annual precipitation: 30 to 58 inches Mean annual air temperature: 44 to 69 degrees F

Frost-free period: 164 to 240 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Bonnie, occasionally flooded, and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bonnie, Occasionally Flooded

Setting

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Acid fine-silty alluvium

Typical profile

Ap - 0 to 8 inches: silt loam Bg - 8 to 38 inches: silt loam Cg - 38 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: Occasional Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 11.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D

Ecological site: F120AY020KY - Wet Alluvial Flats

Hydric soil rating: Yes

Minor Components

Belknap, occasionally flooded

Percent of map unit: 9 percent

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Melvin, occasionally flooded

Percent of map unit: 8 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Piopolis, occasionally flooded

Percent of map unit: 3 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

uShaA—Sharon silt loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2wltv Elevation: 330 to 690 feet

Mean annual precipitation: 30 to 58 inches Mean annual air temperature: 45 to 69 degrees F

Frost-free period: 164 to 240 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Sharon, occasionally flooded, and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sharon, Occasionally Flooded

Setting

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Acid coarse-silty alluvium

Typical profile

Ap - 0 to 7 inches: silt loam
Bw - 7 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 20 to 36 inches

Frequency of flooding: Occasional Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 13.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C

Ecological site: F120AY019KY - Moist Silty Alluvium

Hydric soil rating: No

Minor Components

Belknap, occasionally flooded

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Blackford, occasionally flooded

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Wilbur, occasionally flooded

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Pope, occasionally flooded

Percent of map unit: 3 percent

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Bonnie, occasionally flooded

Percent of map unit: 2 percent

Landform: Flood plains

Landform position (three-dimensional): Dip

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

W-Water

Map Unit Setting

National map unit symbol: Ihhb

Mean annual precipitation: 30 to 55 inches Mean annual air temperature: 46 to 68 degrees F

Frost-free period: 168 to 212 days

Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

WIB—Wellston silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2wlvj Elevation: 380 to 960 feet

Mean annual precipitation: 30 to 60 inches Mean annual air temperature: 44 to 69 degrees F

Frost-free period: 157 to 215 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Wellston and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wellston

Setting

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over loamy residuum

weathered from sandstone and shale

Typical profile

Ap - 0 to 8 inches: silt loam Bt - 8 to 40 inches: silt loam 2C - 40 to 52 inches: loam 2R - 52 to 62 inches: bedrock

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 40 to 72 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.13 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 11.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: F120AY004KY - Loess Veneered Sandstone-Shale Uplands

Hydric soil rating: No

Minor Components

Zanesville

Percent of map unit: 4 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Frondorf

Percent of map unit: 3 percent

Landform: Ridges

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Lenberg

Percent of map unit: 3 percent

Landform: Ridges

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

WIC—Wellston silt loam, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2vtzy Elevation: 330 to 1,160 feet

Mean annual precipitation: 30 to 60 inches Mean annual air temperature: 44 to 68 degrees F

Frost-free period: 157 to 215 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Wellston and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wellston

Setting

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over loamy residuum

weathered from sandstone and shale

Typical profile

Ap - 0 to 7 inches: silt loam Bt - 7 to 35 inches: silt loam

2C - 35 to 60 inches: fine sandy loam

2R - 60 to 70 inches: bedrock

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: 40 to 72 inches to lithic bedrock

Drainage class: Well drained Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.13 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: F120AY004KY - Loess Veneered Sandstone-Shale Uplands

Hydric soil rating: No

Minor Components

Zanesville

Percent of map unit: 4 percent

Landform: Ridges

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Lenberg

Percent of map unit: 3 percent

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Frondorf

Percent of map unit: 3 percent

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

WIC3—Wellston silt loam, 6 to 12 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 2wv4t

Elevation: 360 to 940 feet

Mean annual precipitation: 30 to 58 inches
Mean annual air temperature: 41 to 69 degrees F

Frost-free period: 141 to 212 days

Farmland classification: Not prime farmland

Map Unit Composition

Wellston, severely eroded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wellston, Severely Eroded

Setting

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over loamy residuum

weathered from sandstone and shale

Typical profile

Ap - 0 to 2 inches: silt loam Bt - 2 to 40 inches: silt loam 2C - 40 to 52 inches: loam 2R - 52 to 62 inches: bedrock

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: 40 to 69 inches to lithic bedrock

Drainage class: Well drained Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: F120BY007IN - Deep Well Drained Sandstone-Shale Uplands

Hydric soil rating: No

Minor Components

Zanesville, severely eroded

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rosine, severely eroded

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Gilpin, severely eroded

Percent of map unit: 3 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Lenberg, severely eroded

Percent of map unit: 2 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

WID—Wellston silt loam, 12 to 20 percent slopes

Map Unit Setting

National map unit symbol: 2wh3r

Elevation: 350 to 830 feet

Mean annual precipitation: 30 to 55 inches Mean annual air temperature: 44 to 69 degrees F

Frost-free period: 157 to 215 days

Farmland classification: Not prime farmland

Map Unit Composition

Wellston and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wellston

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over loamy residuum

weathered from sandstone and shale

Typical profile

Ap - 0 to 7 inches: silt loam Bt - 7 to 35 inches: silt loam

2C - 35 to 60 inches: fine sandy loam

2R - 60 to 70 inches: bedrock

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: 40 to 72 inches to lithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.13 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: F120AY004KY - Loess Veneered Sandstone-Shale Uplands

Hydric soil rating: No

Minor Components

Frondorf

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Zanesville

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Lenberg

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

WID3—Wellston silt loam, 12 to 30 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 2vtzw

Elevation: 350 to 830 feet

Mean annual precipitation: 30 to 55 inches Mean annual air temperature: 46 to 68 degrees F

Frost-free period: 168 to 212 days

Farmland classification: Not prime farmland

Map Unit Composition

Wellston, severely eroded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wellston, Severely Eroded

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over loamy residuum

weathered from sandstone and shale

Typical profile

A - 0 to 3 inches: silt loam

Bt - 3 to 25 inches: silty clay loam 2C - 25 to 60 inches: fine sandy loam

2R - 60 to 70 inches: bedrock

Properties and qualities

Slope: 12 to 30 percent

Depth to restrictive feature: 49 to 74 inches to lithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00

in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Ecological site: F120AY004KY - Loess Veneered Sandstone-Shale Uplands

Hydric soil rating: No

Minor Components

Zanesville, severely eroded

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Frondorf, severely eroded

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Lenberg, severely eroded

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

WIE—Wellston silt loam, 20 to 30 percent slopes

Map Unit Setting

National map unit symbol: Ihhm Elevation: 350 to 660 feet

Mean annual precipitation: 30 to 55 inches Mean annual air temperature: 46 to 68 degrees F

Frost-free period: 168 to 212 days

Farmland classification: Not prime farmland

Map Unit Composition

Wellston and similar soils: 70 percent Minor components: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wellston

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over loamy residuum

weathered from sandstone and shale

Typical profile

H1 - 0 to 8 inches: silt loam H2 - 8 to 30 inches: silt loam H3 - 30 to 52 inches: loam

R - 52 to 62 inches: unweathered bedrock

Properties and qualities

Slope: 20 to 30 percent

Depth to restrictive feature: 40 to 72 inches to lithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Ecological site: F120AY004KY - Loess Veneered Sandstone-Shale Uplands

Hydric soil rating: No

Minor Components

Alluvial soils

Percent of map unit: 5 percent

Hydric soil rating: No

Frondorf

Percent of map unit: 5 percent

Hydric soil rating: No

Lenberg

Percent of map unit: 5 percent

Hydric soil rating: No

Loring

Percent of map unit: 5 percent

Hydric soil rating: No

Memphis

Percent of map unit: 5 percent

Hydric soil rating: No

Other upland soils

Percent of map unit: 5 percent

Hydric soil rating: No

ZaB—Zanesville silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2s2cp

Elevation: 350 to 670 feet

Mean annual precipitation: 30 to 60 inches Mean annual air temperature: 44 to 69 degrees F

Frost-free period: 157 to 213 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Zanesville and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Zanesville

Setting

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over loamy residuum

weathered from sandstone and shale

Typical profile

Ap - 0 to 7 inches: silt loam Bt - 7 to 31 inches: silt loam

Btx - 31 to 39 inches: silty clay loam 2C - 39 to 68 inches: silty clay loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 24 to 32 inches to fragipan

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 21 to 30 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Ecological site: F120AY002KY - Fragipan Uplands

Hydric soil rating: No

Minor Components

Hosmer

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Sadler

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Wellston

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

ZaC—Zanesville silt loam, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2s2cr Elevation: 330 to 910 feet

Mean annual precipitation: 30 to 61 inches Mean annual air temperature: 44 to 70 degrees F

Frost-free period: 168 to 212 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Zanesville and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Zanesville

Setting

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over loamy residuum

weathered from sandstone and siltstone

Typical profile

Ap - 0 to 8 inches: silt loam Bt - 8 to 30 inches: silt loam Btx - 30 to 50 inches: silt loam 2C - 50 to 70 inches: clay loam R - 70 to 80 inches: bedrock

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: 24 to 32 inches to fragipan; 40 to 79 inches to lithic

bedrock

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.13 in/hr)

Depth to water table: About 21 to 30 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: F120AY002KY - Fragipan Uplands

Hydric soil rating: No

Minor Components

Sadler

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Hosmer

Percent of map unit: 5 percent

Landform: Loess hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Wellston

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

ZaC3—Zanesville silt loam, 6 to 12 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 2s2ct Elevation: 320 to 970 feet

Mean annual precipitation: 30 to 61 inches Mean annual air temperature: 42 to 70 degrees F

Frost-free period: 154 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Zanesville, severely eroded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Zanesville, Severely Eroded

Setting

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over loamy residuum

weathered from sandstone and siltstone

Typical profile

Ap - 0 to 4 inches: silt loam Bt - 4 to 23 inches: silt loam

Btx - 23 to 34 inches: silty clay loam 2C - 34 to 56 inches: clay loam R - 56 to 66 inches: bedrock

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: 20 to 28 inches to fragipan; 38 to 75 inches to lithic

bedrock

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.13 in/hr)

Depth to water table: About 17 to 26 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C/D

Ecological site: F120AY002KY - Fragipan Uplands

Hydric soil rating: No

Minor Components

Sadler, eroded

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Hosmer, severely eroded

Percent of map unit: 5 percent

Landform: Loess hills

Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Wellston, severely eroded

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

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Appendix B Representative Stream and Wetland Photographs



8/1/2024

Description:

Overview of the intermittent stream S001 taken from photo station PS103, facing northeast (upstream).



Photo Number: 2

8/1/2024

Description:

View of the perennial portion of stream S010 taken from photo station PS107, facing north.





3/26/2024

Description:

Upstream view of perennial stream SDS48 taken from photo station PS001, facing southeast.



Photo Number: 4

3/25/2024

Description:

Upstream view of perennial stream SDS41 taken from photo station PS003, facing southwest.





3/27/2024

Description:

Downstream view of the perennial (R3) reach of stream SM taken from photo station PS004, facing northeast.



Photo Number: 6

4/3/2024

Description:

Downstream view of the intermittent (R4) reach of stream SDS88 taken from photo station PS005, facing north.





4/4/2024

Description:

Upstream view of the intermittent (R4) reach of stream SDS98 taken from photo station PS010, facing southwest.



Photo Number: 8

3/20/2024

Description:

Downstream view of the intermittent (R4) reach of stream SZ taken from photo station PS014, facing northwest.





3/20/2024

Description:

Downstream view of the intermittent (R4) reach of stream SDS25 taken from photo station PS015, facing northwest.



Photo Number: 10

3/21/2024

Description:

Downstream view of the intermittent (R4) reach of stream SY taken from photo station PS017, facing southwest.





3/20/2024

Description:

Upstream view of intermittent (R4) stream IBS28 taken from photo station PS021, facing northeast..



Photo Number: 12

3/19/2024

Description:

Upstream view of the intermittent (R4) reach of stream JMS2 taken from photo station PS025, facing southwest.





3/19/2024

Description:

Upstream view of perennial (R3) stream IBS45 taken from photo station PS026, facing south.



Photo Number: 14

3/19/2024

Description:

Downstream view of the intermittent (R4) reach of stream SB taken from photo station PS028, facing northwest.





8/1/2024

Description:

Overview of pond PUB002 taken from photo station PS111, facing southwest.



Photo Number: 16

8/1/2024

Description:

Overview of pond PUB003 and palustrine emergent (PEM) wetland W005 taken from photo station PS109, facing southeast.





4/2/2024

Description:

View of upland data point DP-001, facing east.



Photo Number: 18

4/2/2024

Description:

Overview of palustrine forested (PFO) wetland MHW020 taken from data point DP-002, facing south.





4/3/2024

Description:

View of upland data point DP-003 located within hardwood forest, facing north.



Photo Number: 20

4/3/2024

Description:

View of upland data point DP-004 located within an agricultural field, facing south.





4/3/2024

Description:

Overview of PEM wetland MHW007 taken from data point DP-005, facing north.



Photo Number: 22

4/3/2024

Description:

View of upland data point DP-006 located north of wetland MHW010, facing west.





4/3/2024

Description:

Overview of PEM wetland MHW014 taken from data point DP-007, facing south.



Photo Number: 24

4/3/2024

Description:

Overview of PFO wetland MHW015 taken from data point DP-008, facing south.





4/3/2024

Description:

View of upland data point DP-009 west of wetlands MHW014 and MHW015, facing south.



Photo Number: 26

4/4/2024

Description:

Overview of PEM wetland JMW21 taken from data point DP-010, facing north.





4/4/2024

Description:

View of upland data point DP-011 located west of wetland JM21, facing south.



Photo Number: 28

4/4/2024

Description:

View of upland data point DP-012, facing south.





4/4/2024

Description:

View of upland data point DP-013 located in an agricultural field, facing east.



Photo Number: 30

4/4/2024

Description:

View of upland data point DP-014, facing east.





4/4/2024

Description:

View of upland data point DP-015 located in an agricultural field southwest of stream SY and stream SZ, facing west.



Photo Number: 32

4/4/2024

Description:

Overview of PEM wetland JMW5 taken from data point DP-016, facing north.





4/4/2024

Description:

View of upland data point DP-017 located north of wetland JMW5, facing east.



Photo Number: 34

4/4/2024

Description:

View of upland data point DP-018, facing west.





4/4/2024

Description:

View of upland data point DP-019 located in hardwood forest, facing west.



Photo Number: 36

4/4/2024

Description:

Overview of PEM wetland JMW1 taken from data point DP-020, facing east.





4/4/2024

Description:

View of upland data point DP-021, facing east.



Photo Number: 38

4/4/2024

Description:

View of upland data point DP-022, facing

south.





4/4/2024

Description:

Overview of PFO wetland JMW20 taken from data point DP-023, facing west.



Photo Number: 40

4/4/2024

Description:

View of upland data point DP-024 located northwest of wetland JMW20, facing north.





4/4/2024

Description:

View of upland data point DP-025, facing east.



Photo Number: 42

4/4/2024

Description:

View of upland data point DP-026 located west of wetland W002, facing west.





4/4/2024

Description:

Overview of PEM wetland MHW003 taken from data point DP-027, facing north.



Photo Number: 44

4/4/2024

Description:

View of upland data point DP-028 located in an agricultural field between wetland MHW003 and wetland MHW004, facing south.





4/4/2024

Description:

Overview of PEM wetland IBW17 taken from data point DP-029, facing north.



Photo Number: 46

4/4/2024

Description:

View of upland data point DP-030 located east of wetland IBW17, facing south.





4/5/2024

Description:

Overview of PFO wetland JMW17 taken from data point DP-031, facing east.



Photo Number: 48

4/5/2024

Description:

View of upland data point DP-032 located northwest of wetland JMW17, facing west.





4/5/2024

Description:

View of upland data point DP-033, facing south.



Photo Number: 50

4/5/2024

Description:

Overview of PFO wetland SDW6 taken from data point DP-034, facing west.





4/5/2024

Description:

View of upland data point DP-035 located southwest of wetland SDW6 and wetland SDW9, facing east.



Photo Number: 52

4/5/2024

Description:

View of upland data point DP-036 located in an agricultural field east of wetland SDW3 and wetland MHW024, facing south.





4/5/2024

Description:

Overview of PFO wetland MHW024 taken from data point DP-037, facing south.



Photo Number: 54

4/5/2024

Description:

View of upland data point DP-038, facing west.





4/5/2024

Description:

View of upland data point DP-039, facing east.



Photo Number: 56

4/5/2024

Description:

View of upland data point DP-040 located in mixed hardwood forest, facing west.





8/1/2024

Description:

Overview of PEM wetland W001 taken from data point DP-041, facing west.



Photo Number: 58

8/1/2024

Description:

Overview of linear PEM wetland W002 taken from data point DP-042, facing northeast.





8/1/2024

Description:

Overview of PEM wetland W003 taken from data point DP-043, facing northeast.



Photo Number: 60

8/1/2024

Description:

View of upland data point DP-044, facing north.





8/1/2024

Description:

View of upland data point DP-045 located within mesic hardwood forest, facing east.



Photo Number: 62

8/1/2024

Description:

Overview of PEM wetland W004 taken at DP-046, facing northeast.





8/1/2024

Description:

View of upland data point DP-047, facing east.



Photo Number: 64

8/1/2024

Description:

View of upland data point DP-048, facing east.





8/1/2024

Description:

View of upland data point DP-0049, facing south.



Photo Number: 66

8/1/2024

Description:

View of upland data point DP-050 located within mixed hardwood forest near the western boundary of the site, facing south.



PHOTOGRAPHIC RECORD

Lost City Solar



Muhlenberg Co. / Kentucky

Photo Number: 67

8/1/2024

Description:

View of upland data point DP-051 located within an agricultural field, facing south.



Photo Number: 68

8/1/2024

Description:

View of upland data point DP-052 located in mixed hardwood forest, facing east.





8/1/2024

Description:

View of upland data point DP-053 located within mixed hardwood forest near the southern boundary of the site, facing north.



Photo Number: 70

8/1/2024

Description:

View of upland data point DP-054 located north of stream S001, facing south.



PHOTOGRAPHIC RECORD

Lost City Solar



Muhlenberg Co. / Kentucky

Photo Number: 71

4/4/2024

Description:

Overview of PEM wetland MHW021 taken from photo station PS007, facing east.



Photo Number: 72

3/26/2024

Description:

Overview of PEM wetland IBW18 taken from photo station PS011, facing east.





3/20/2024

Description:

Overview of PUB wetland IBPUB2 taken from photo station PS020, facing north.



Photo Number: 74

3/18/2024

Description:

Overview of PEM wetland IBW7 taken from photo station PS027, facing west.



PHOTOGRAPHIC RECORD

Lost City Solar



Muhlenberg Co. / Kentucky

Photo Number: 75

3/19/2024

Description:

Overview of PEM wetland SDW1 taken from photo station PS030, facing north.



Photo Number: 76

3/21/2024

Description:

Overview of PEM wetland JMW15 taken from photo station PS033, facing east.





8/1/2024

Description:

Overview of PEM wetland W003 taken from photo station PS101, facing south.



Photo Number: 78

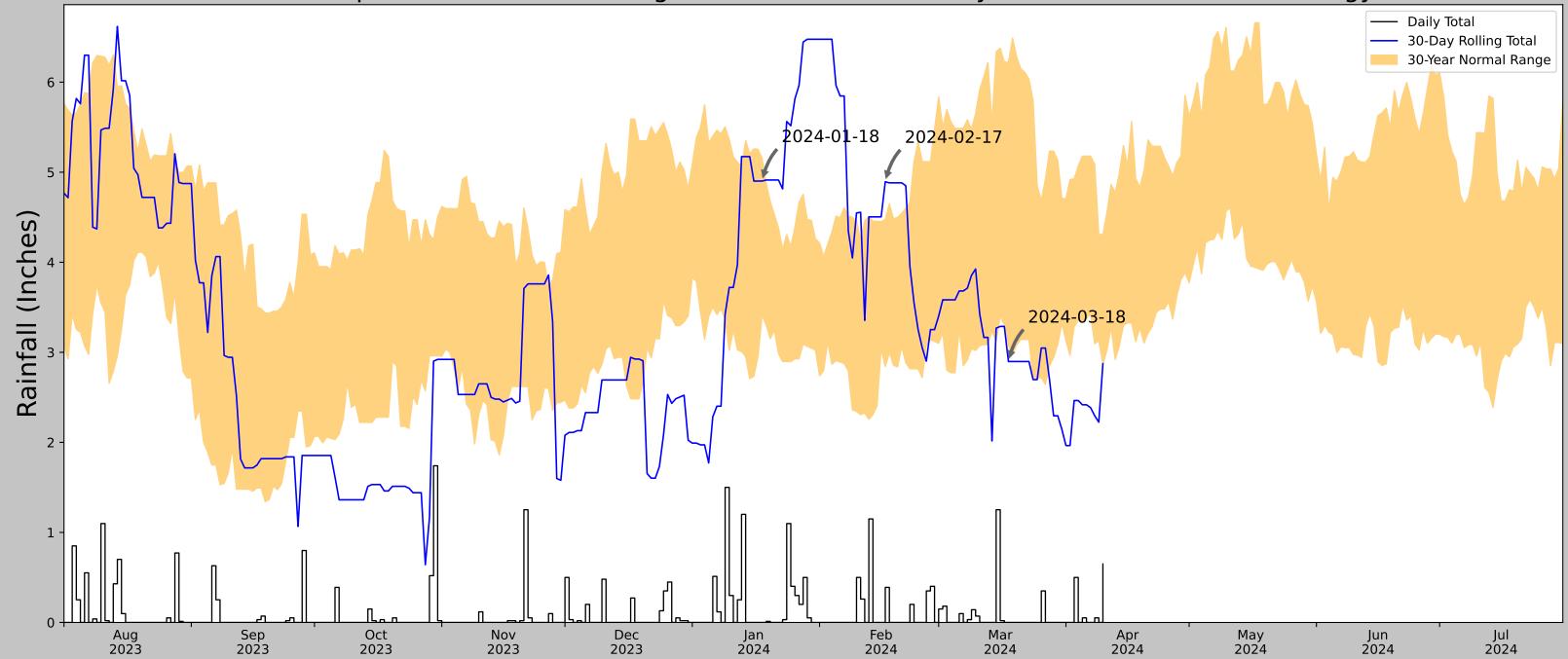
8/1/2024

Description:

View of upland habitat at photo station PS106, facing southwest.

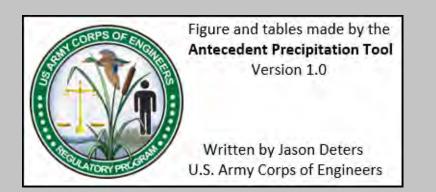


Appendix C Antecedent Precipitation Table

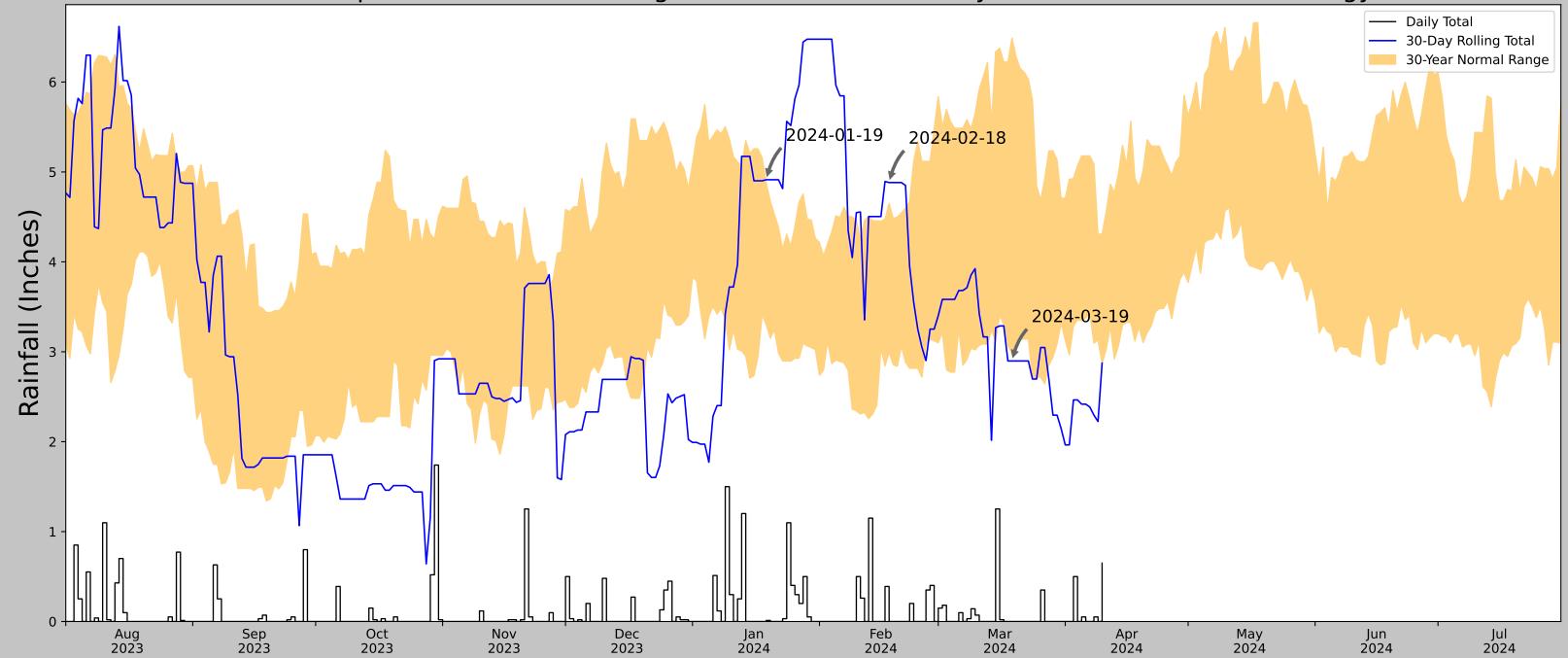


Coordinates	37.1043, -86.9827
Observation Date	2024-03-18
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-18	3.077559	6.222441	2.897638	Dry	1	3	3
2024-02-17	2.842126	4.474803	4.893701	Wet	3	2	6
2024-01-18	3.410236	5.155512	4.901575	Normal	2	1	2
Result							Normal Conditions - 11

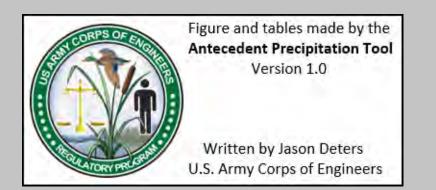


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

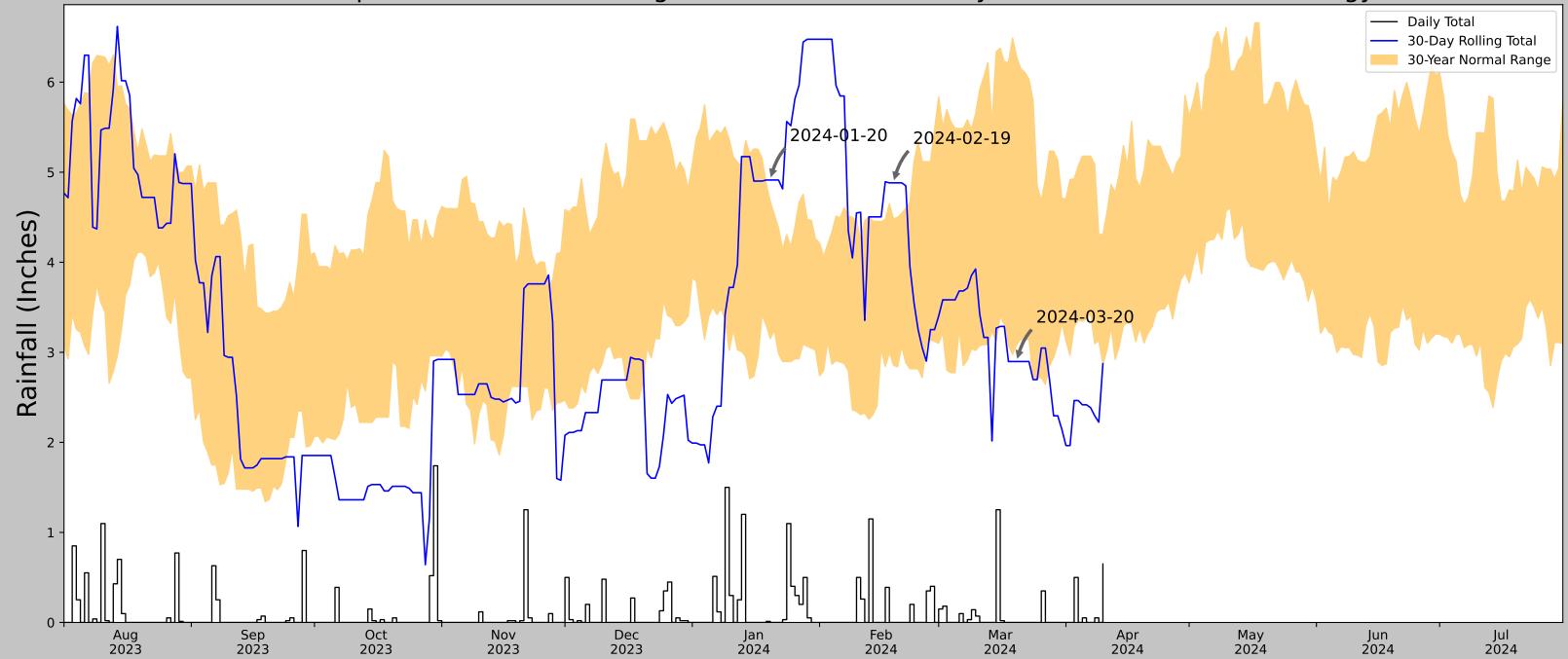


Coordinates	37.1043, -86.9827
Observation Date	2024-03-19
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-19	2.975591	6.487795	2.897638	Dry	1	3	3
2024-02-18	2.996457	4.649213	4.88189	Wet	3	2	6
2024-01-19	3.30315	4.873622	4.913386	Wet	3	1	3
Result							Normal Conditions - 12

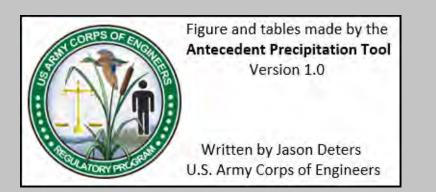


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

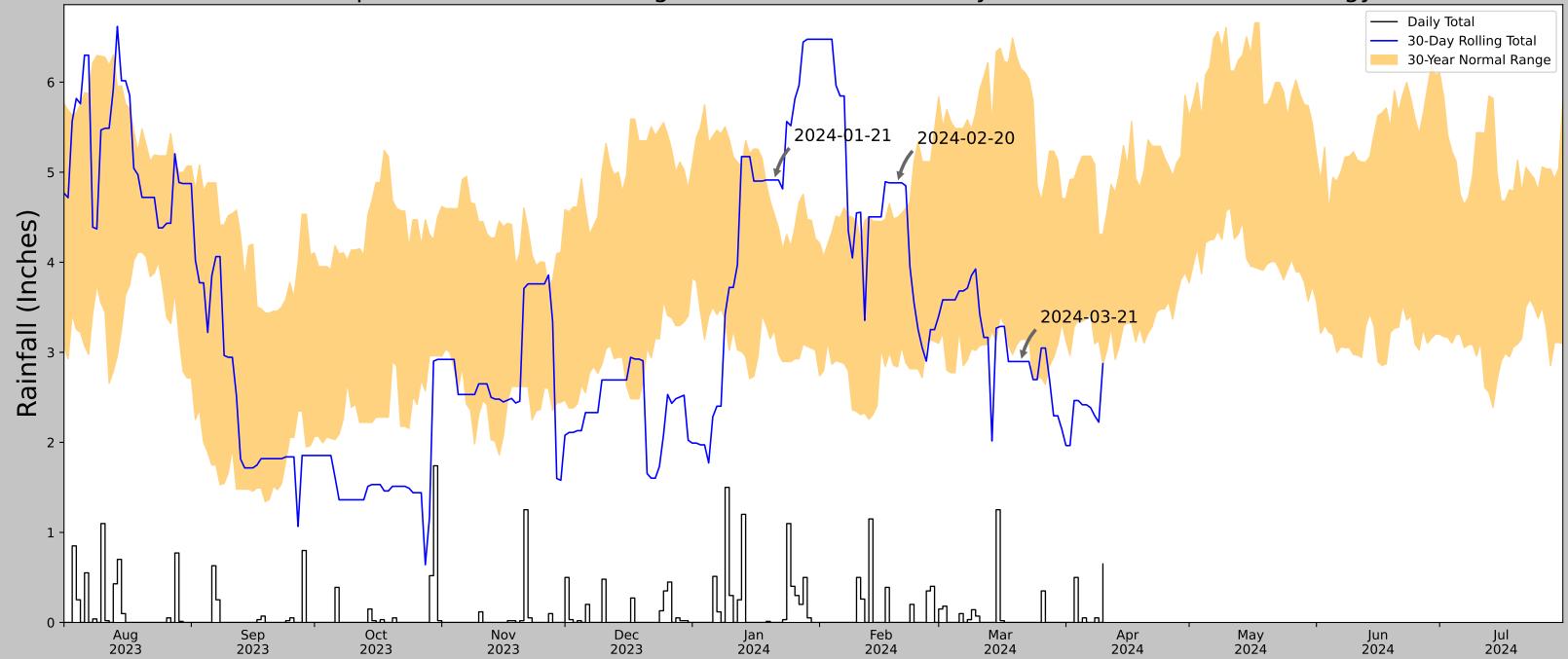


Coordinates	37.1043, -86.9827
Observation Date	2024-03-20
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-20	3.081496	6.280315	2.897638	Dry	1	3	3
2024-02-19	2.855906	4.483071	4.88189	Wet	3	2	6
2024-01-20	3.151969	4.674016	4.913386	Wet	3	1	3
Result							Normal Conditions - 12

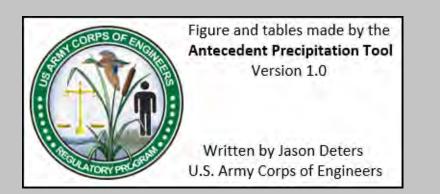


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

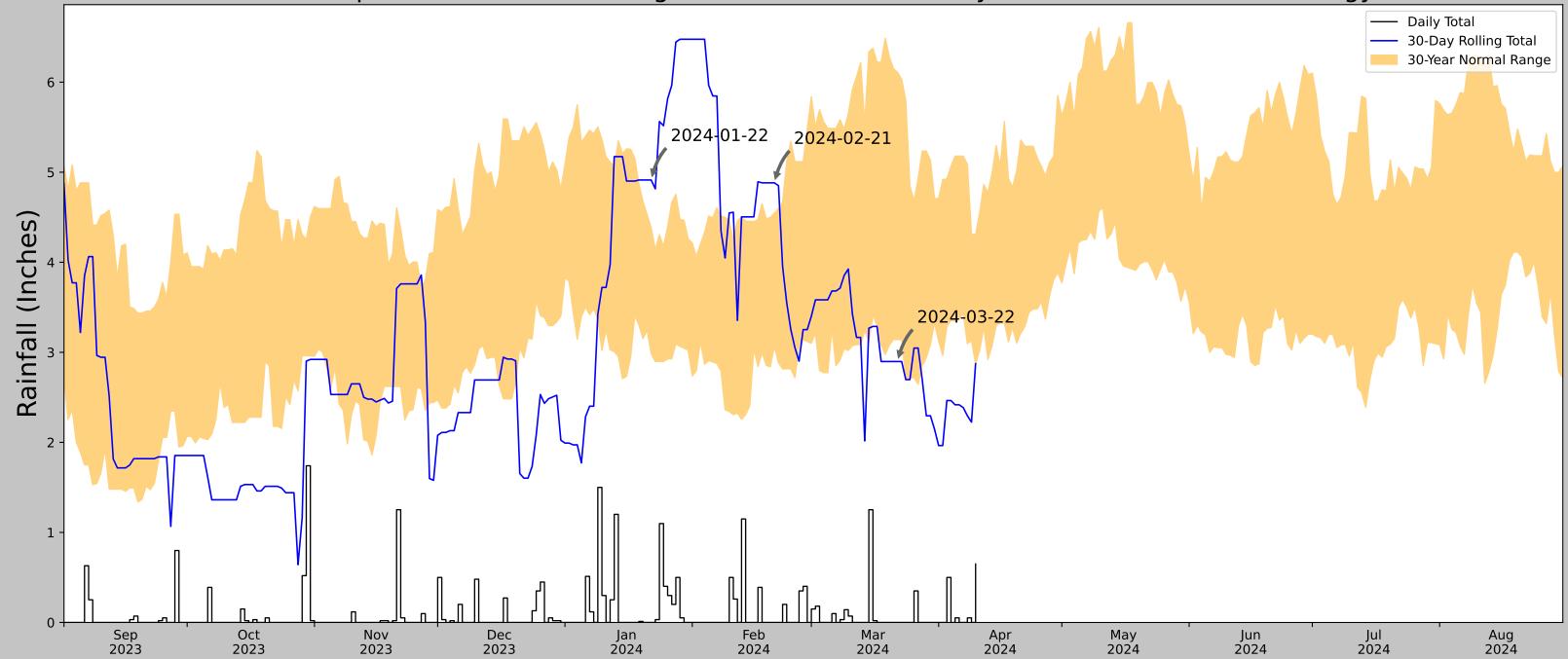


Coordinates	37.1043, -86.9827
Observation Date	2024-03-21
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-21	3.141732	6.149606	2.897638	Dry	1	3	3
2024-02-20	2.838189	4.498425	4.88189	Wet	3	2	6
2024-01-21	3.244095	4.527559	4.913386	Wet	3	1	3
Result							Normal Conditions - 12

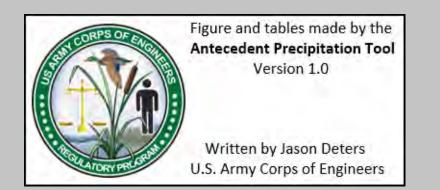


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

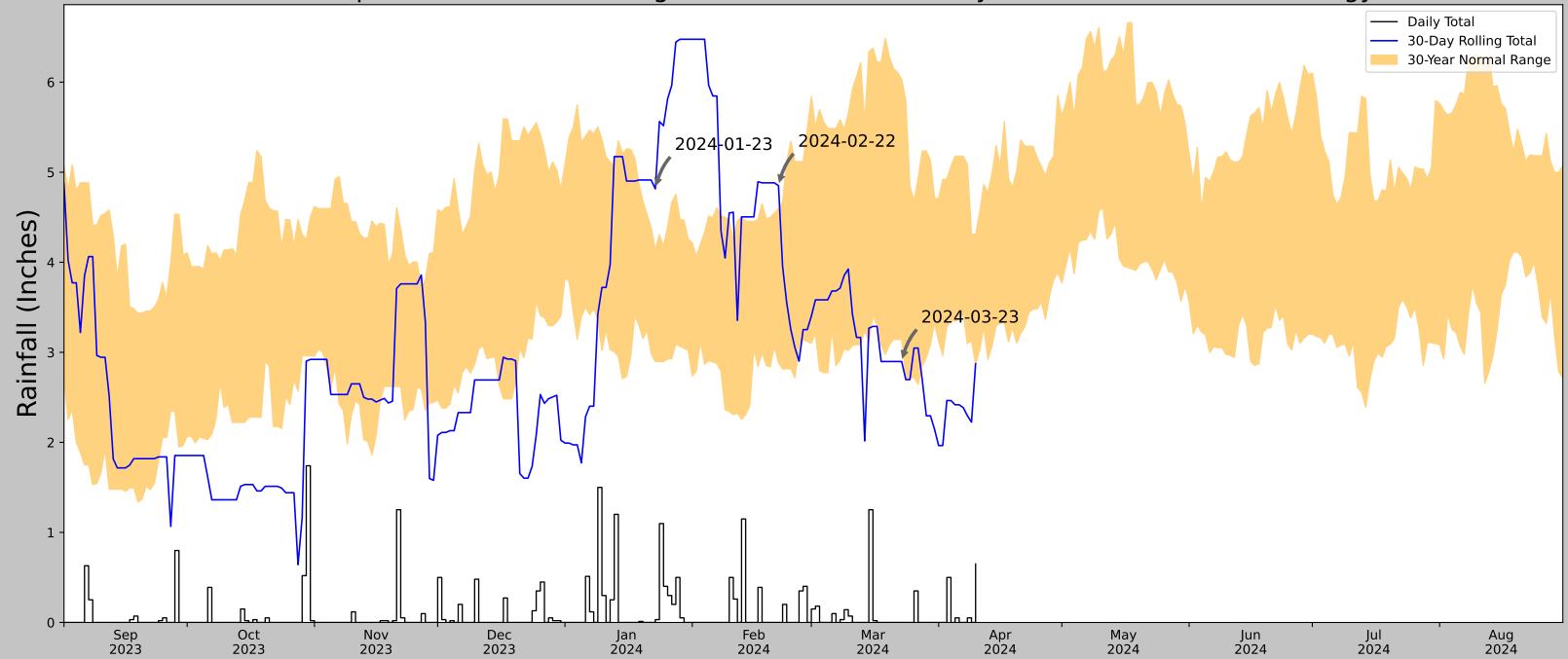


Coordinates	37.1043, -86.9827
Observation Date	2024-03-22
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-22	3.141732	6.108268	2.897638	Dry	1	3	3
2024-02-21	3.065354	4.544488	4.88189	Wet	3	2	6
2024-01-22	2.985433	4.381496	4.913386	Wet	3	1	3
Result							Normal Conditions - 12

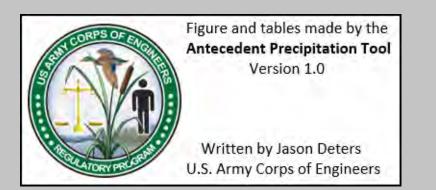


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

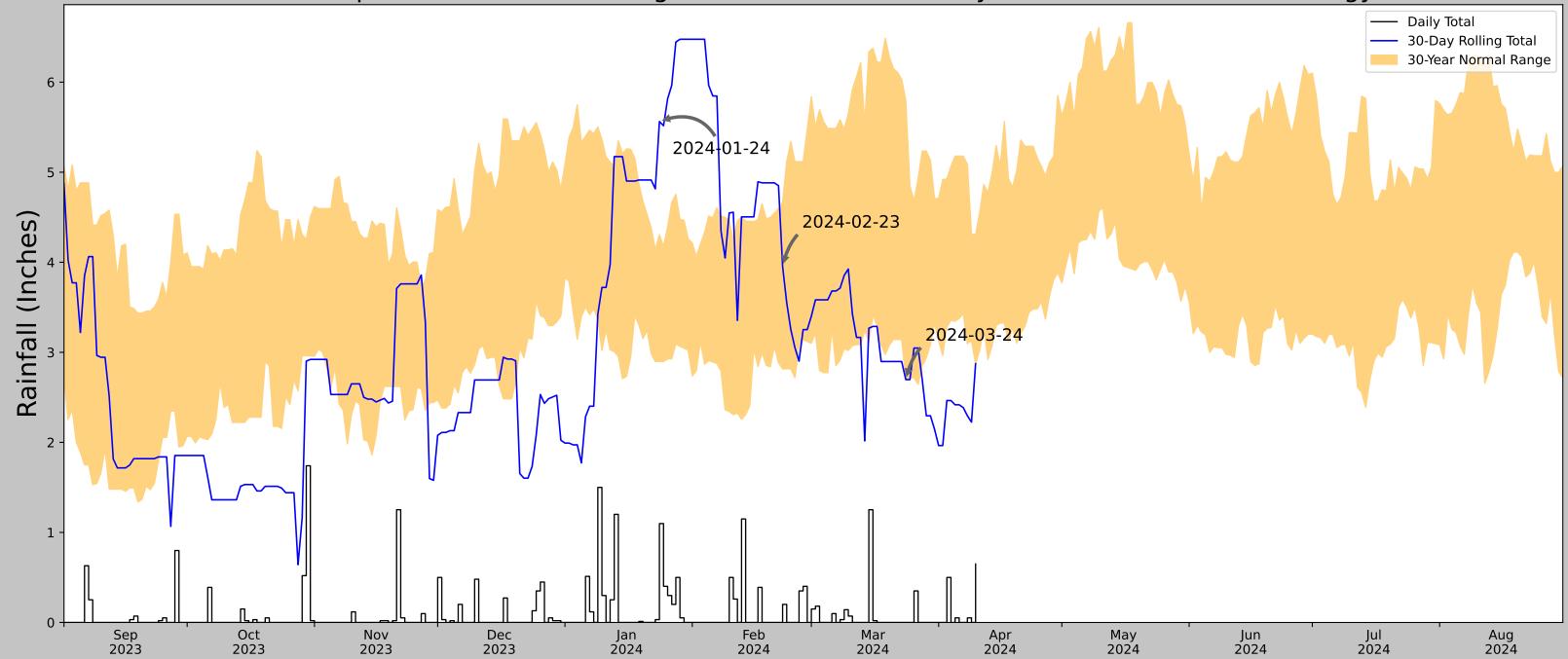


Coordinates	37.1043, -86.9827
Observation Date	2024-03-23
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-23	3.141732	6.032284	2.897638	Dry	1	3	3
2024-02-22	2.884646	4.596851	4.850394	Wet	3	2	6
2024-01-23	2.896457	4.141732	4.814961	Wet	3	1	3
Result							Normal Conditions - 12

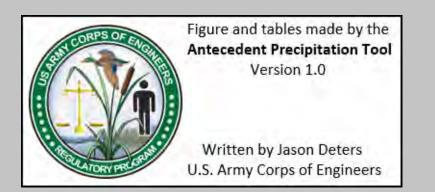


<u> </u>						<u> </u>	
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

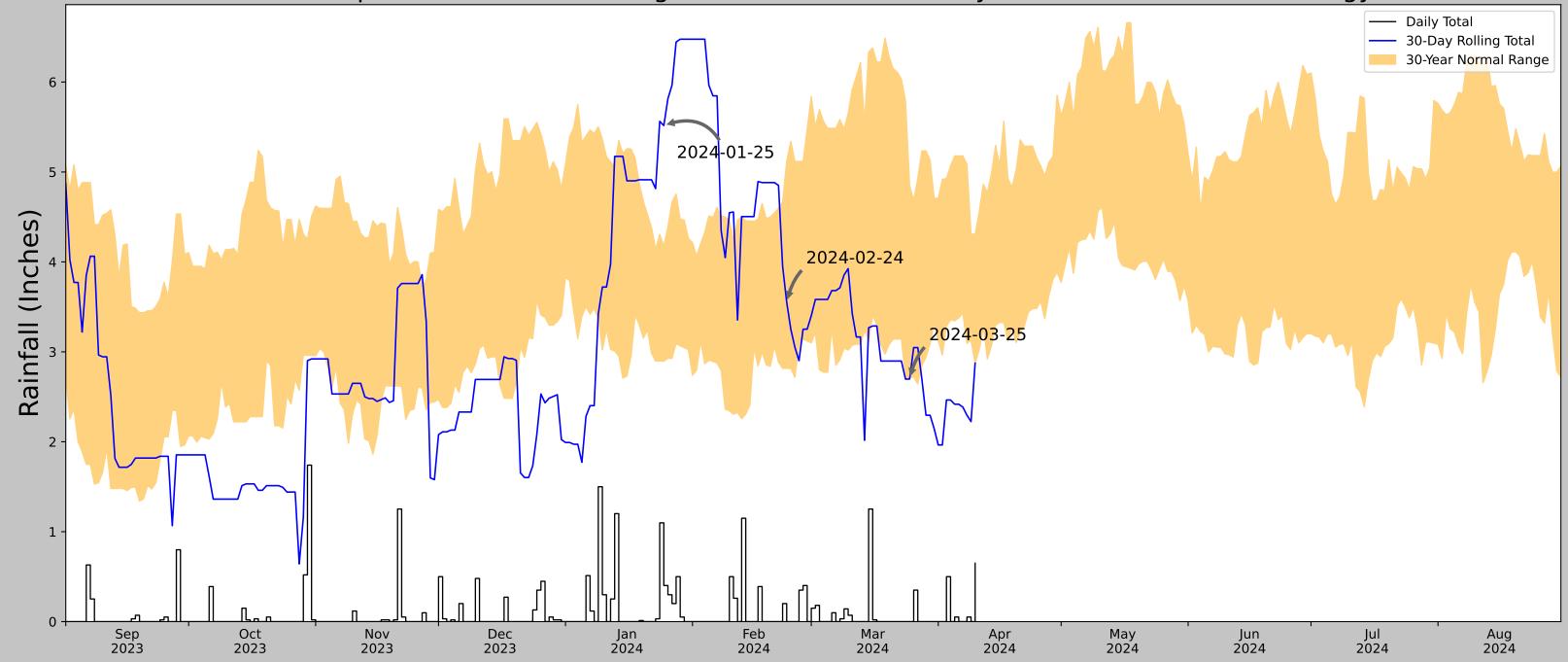


Coordinates	37.1043, -86.9827
Observation Date	2024-03-24
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-24	2.71378	5.796063	2.69685	Dry	1	3	3
2024-02-23	2.816142	4.666536	3.952756	Normal	2	2	4
2024-01-24	2.897638	4.305906	5.562992	Wet	3	1	3
Result							Normal Conditions - 10

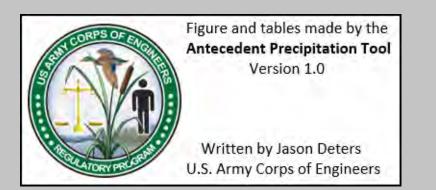


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

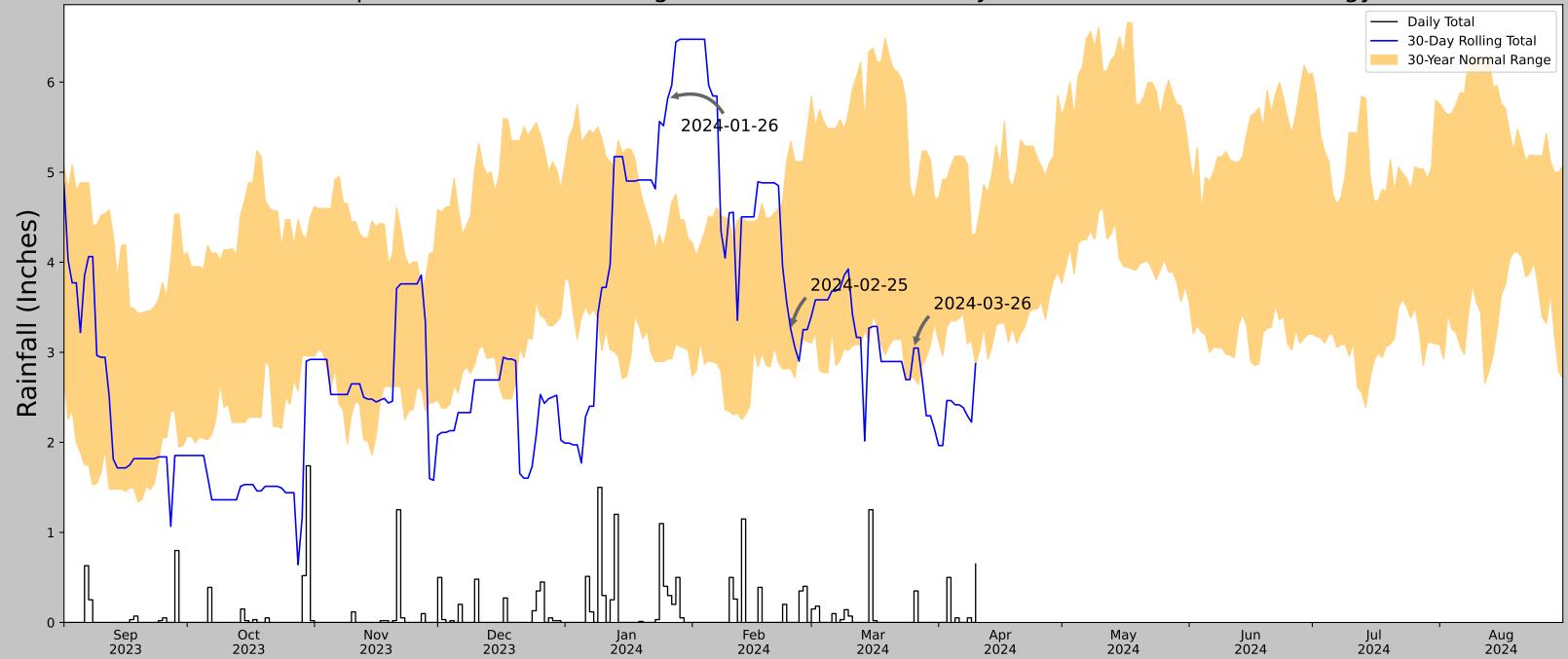


Coordinates	37.1043, -86.9827
Observation Date	2024-03-25
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-25	2.71378	4.847638	2.69685	Dry	1	3	3
2024-02-24	2.816142	5.118504	3.551181	Normal	2	2	4
2024-01-25	2.896457	4.175197	5.515748	Wet	3	1	3
Result							Normal Conditions - 10

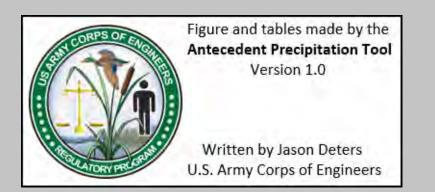


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Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted ∆	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

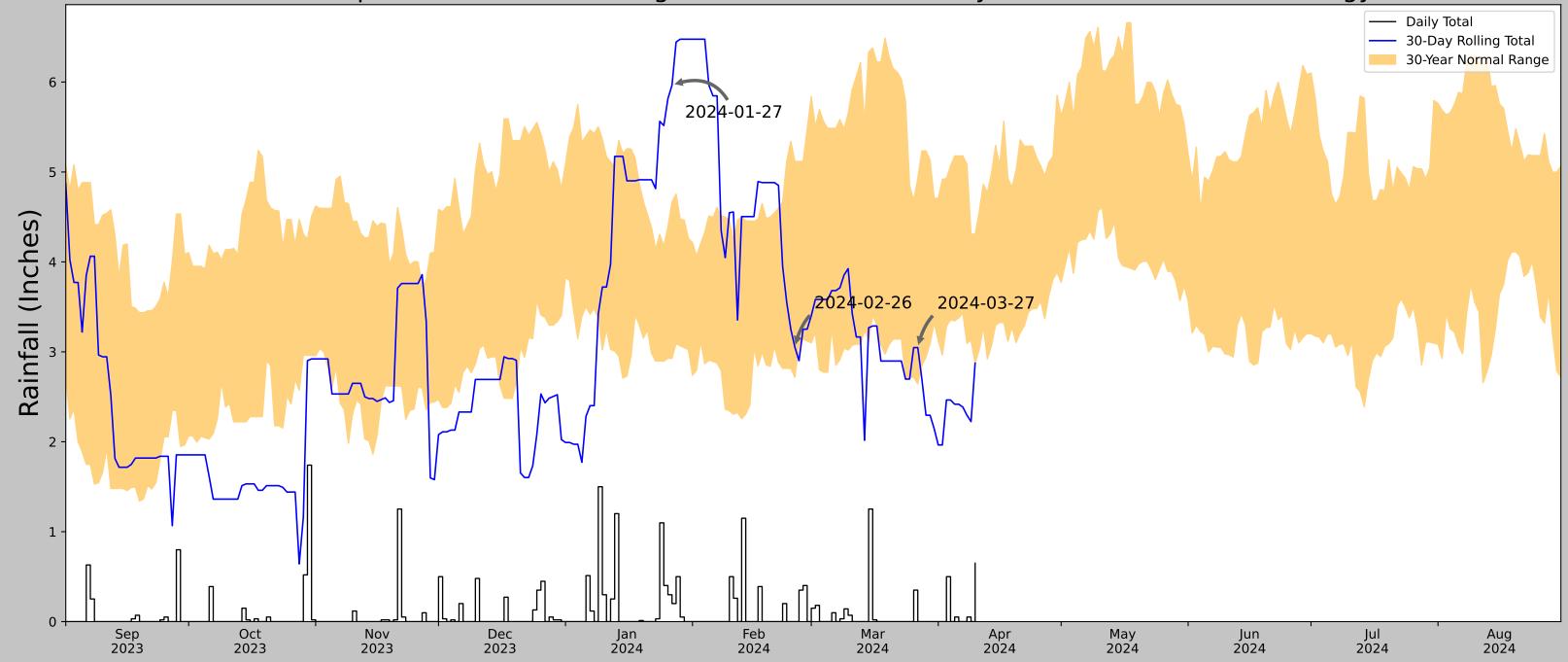


Coordinates	37.1043, -86.9827
Observation Date	2024-03-26
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-26	2.719291	4.685433	3.047244	Normal	2	3	6
2024-02-25	2.816142	5.340945	3.251969	Normal	2	2	4
2024-01-26	2.927953	4.390551	5.814961	Wet	3	1	3
Result							Normal Conditions - 13

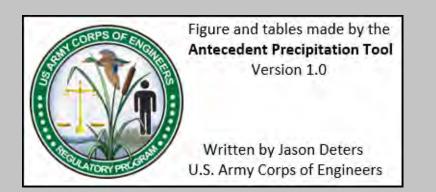


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

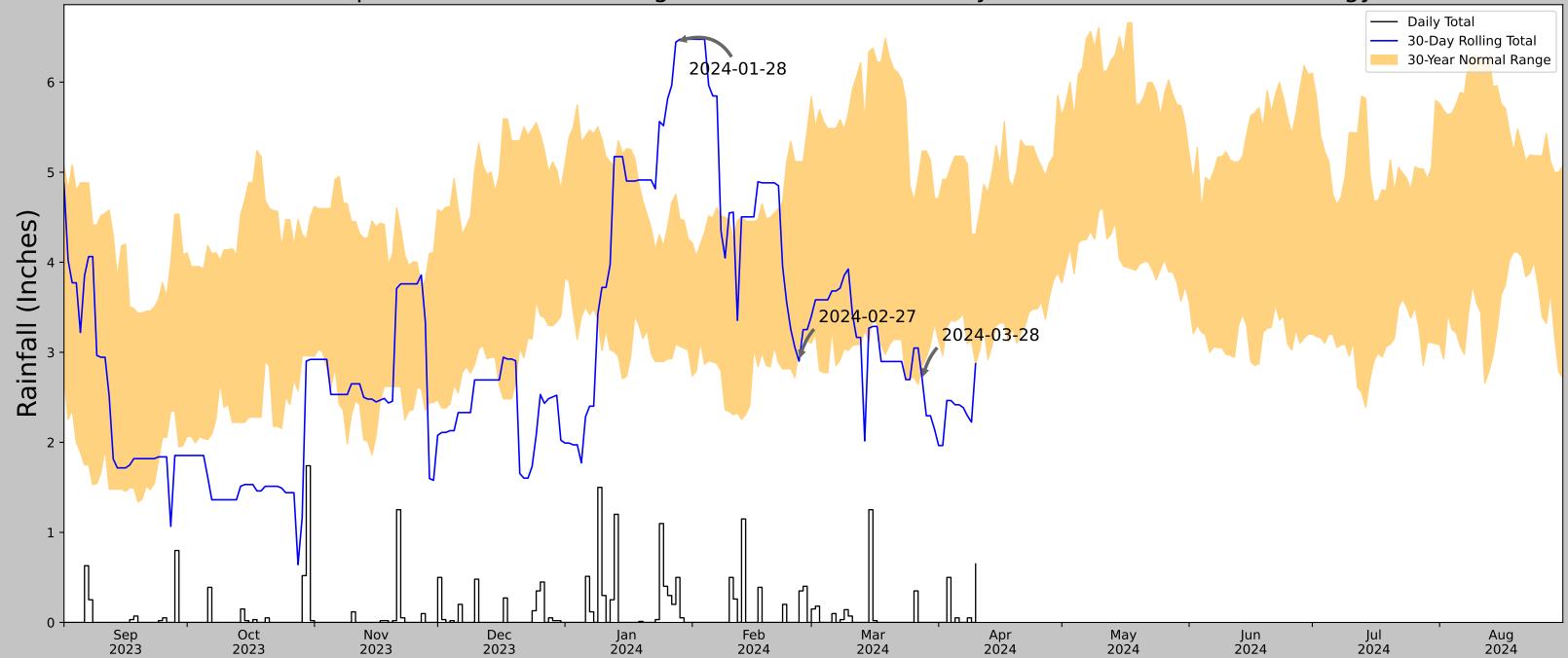


Coordinates	37.1043, -86.9827
Observation Date	2024-03-27
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-27	2.643701	4.926378	3.047244	Normal	2	3	6
2024-02-26	2.717323	5.117717	3.051181	Normal	2	2	4
2024-01-27	2.927953	4.664567	5.964567	Wet	3	1	3
Result							Normal Conditions - 13

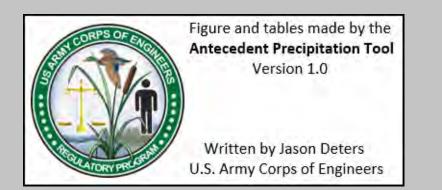


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

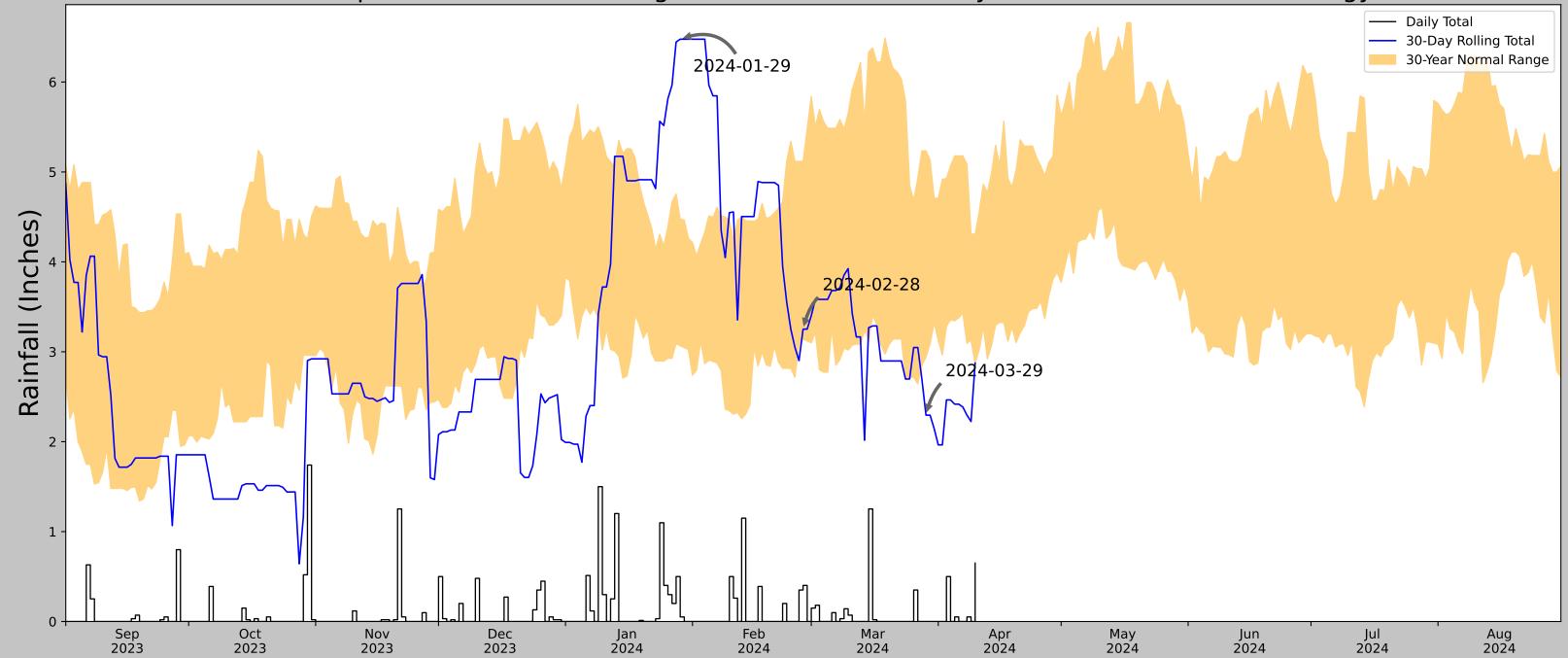


Coordinates	37.1043, -86.9827
Observation Date	2024-03-28
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-28	2.850787	5.23504	2.69685	Dry	1	3	3
2024-02-27	3.075591	5.117717	2.901575	Dry	1	2	2
2024-01-28	3.09252	4.754331	6.444882	Wet	3	1	3
Result							Drier than Normal - 8

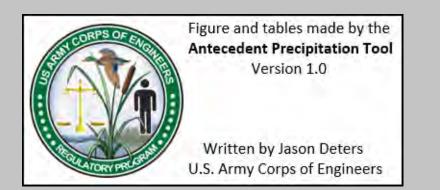


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

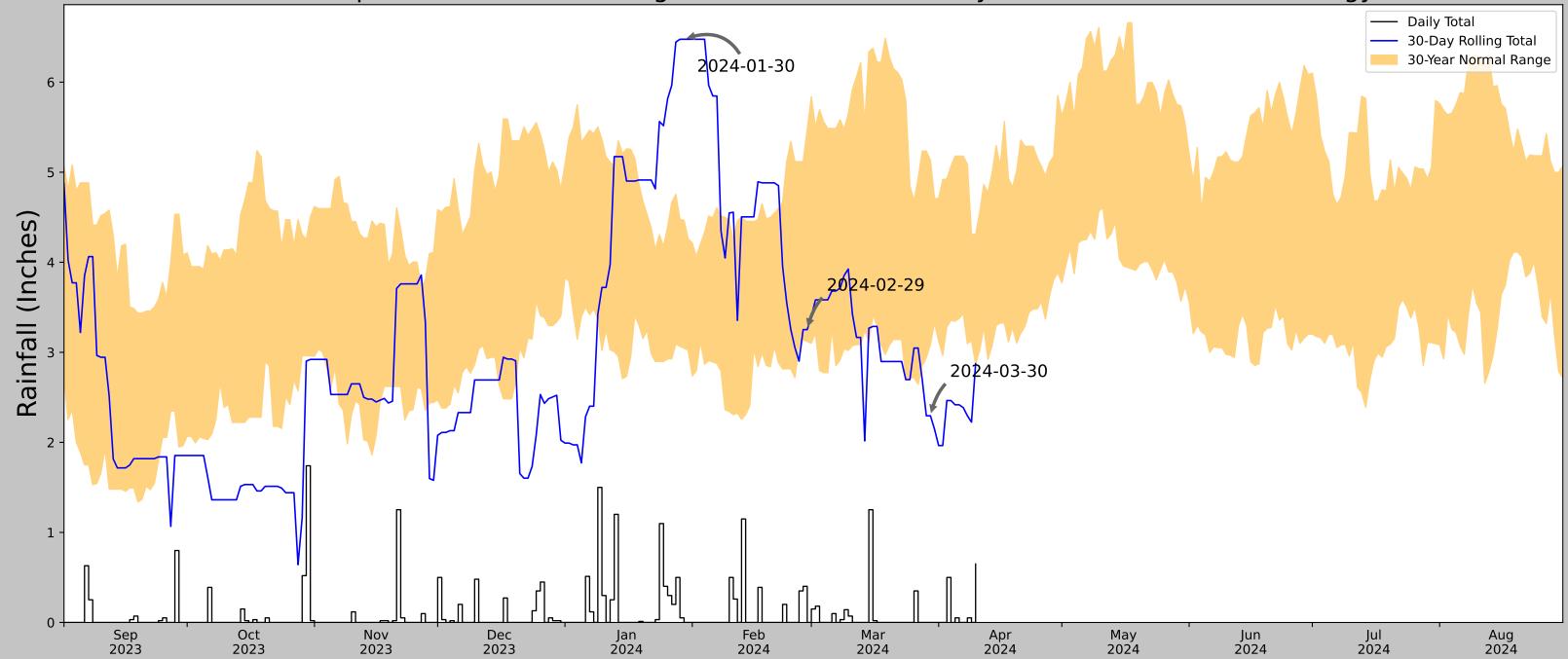


Coordinates	37.1043, -86.9827
Observation Date	2024-03-29
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-29	2.940945	5.23504	2.295276	Dry	1	3	3
2024-02-28	3.141732	5.117717	3.251969	Normal	2	2	4
2024-01-29	3.065748	4.475984	6.476378	Wet	3	1	3
Result							Normal Conditions - 10

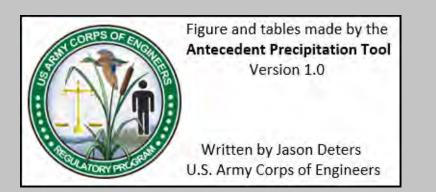


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0



Coordinates	37.1043, -86.9827
Observation Date	2024-03-30
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-30	3.087795	5.133465	2.295276	Dry	1	3	3
2024-02-29	3.120866	5.477362	3.251969	Normal	2	2	4
2024-01-30	3.046457	4.465354	6.476378	Wet	3	1	3
Result							Normal Conditions - 10

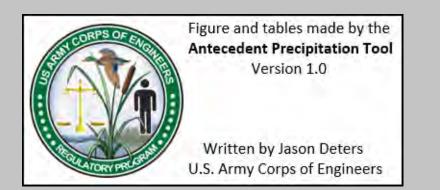


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

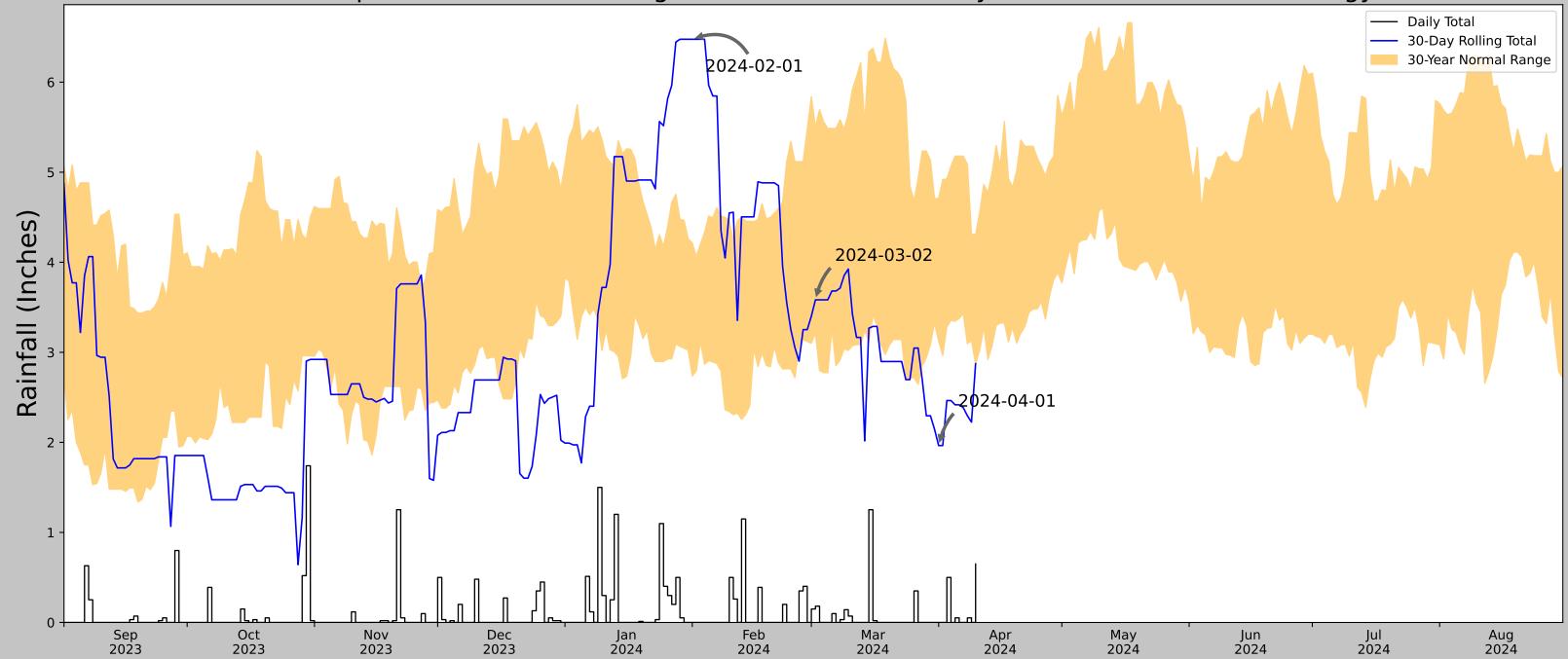


Coordinates	37.1043, -86.9827
Observation Date	2024-03-31
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-31	3.324016	4.707874	2.145669	Dry	1	3	3
2024-03-01	3.1	5.837008	3.401575	Normal	2	2	4
2024-01-31	3.024016	4.261024	6.476378	Wet	3	1	3
Result							Normal Conditions - 10

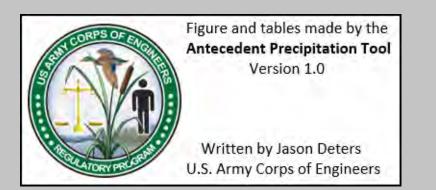


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

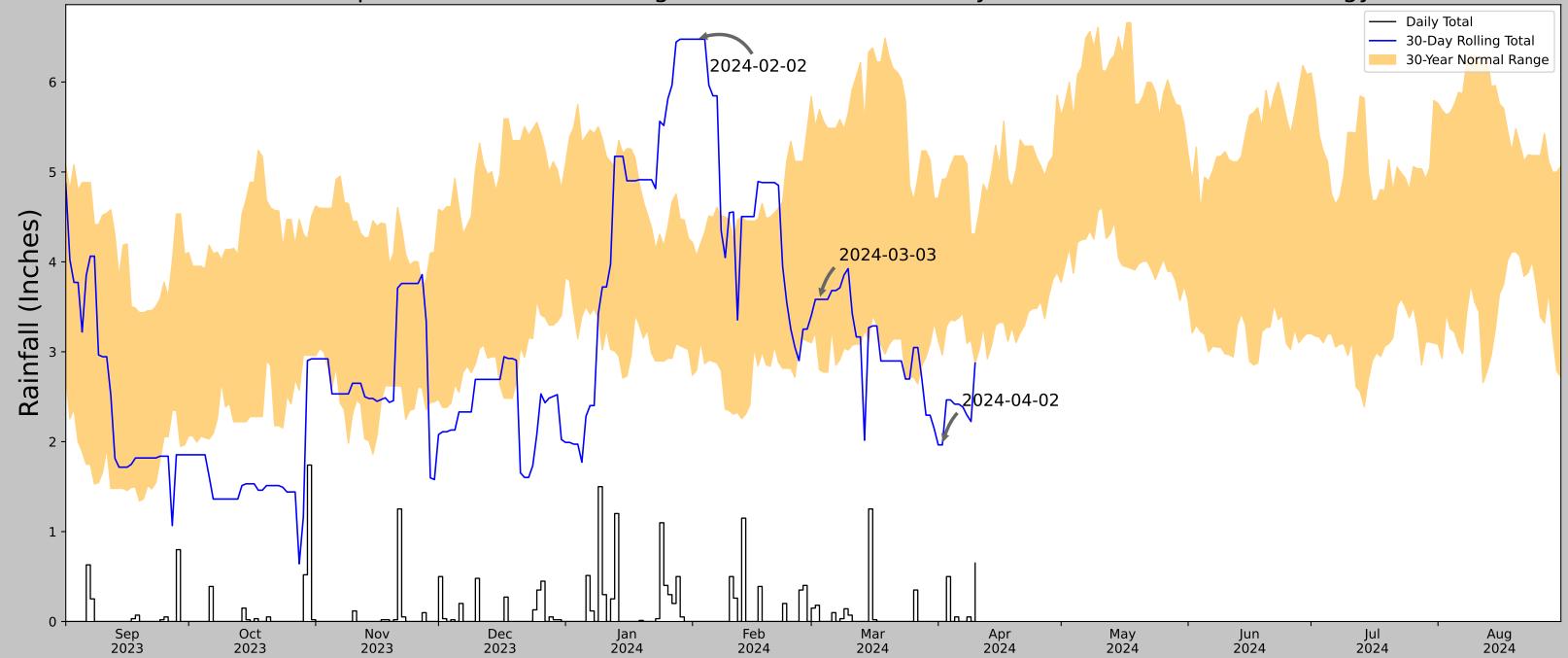


Coordinates	37.1043, -86.9827
Observation Date	2024-04-01
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought (2024-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-04-01	3.12874	4.707874	1.964567	Dry	1	3	3
2024-03-02	3.215748	5.501575	3.582677	Normal	2	2	4
2024-02-01	2.737795	4.214173	6.476378	Wet	3	1	3
Result							Normal Conditions - 10

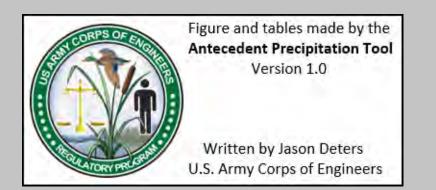


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

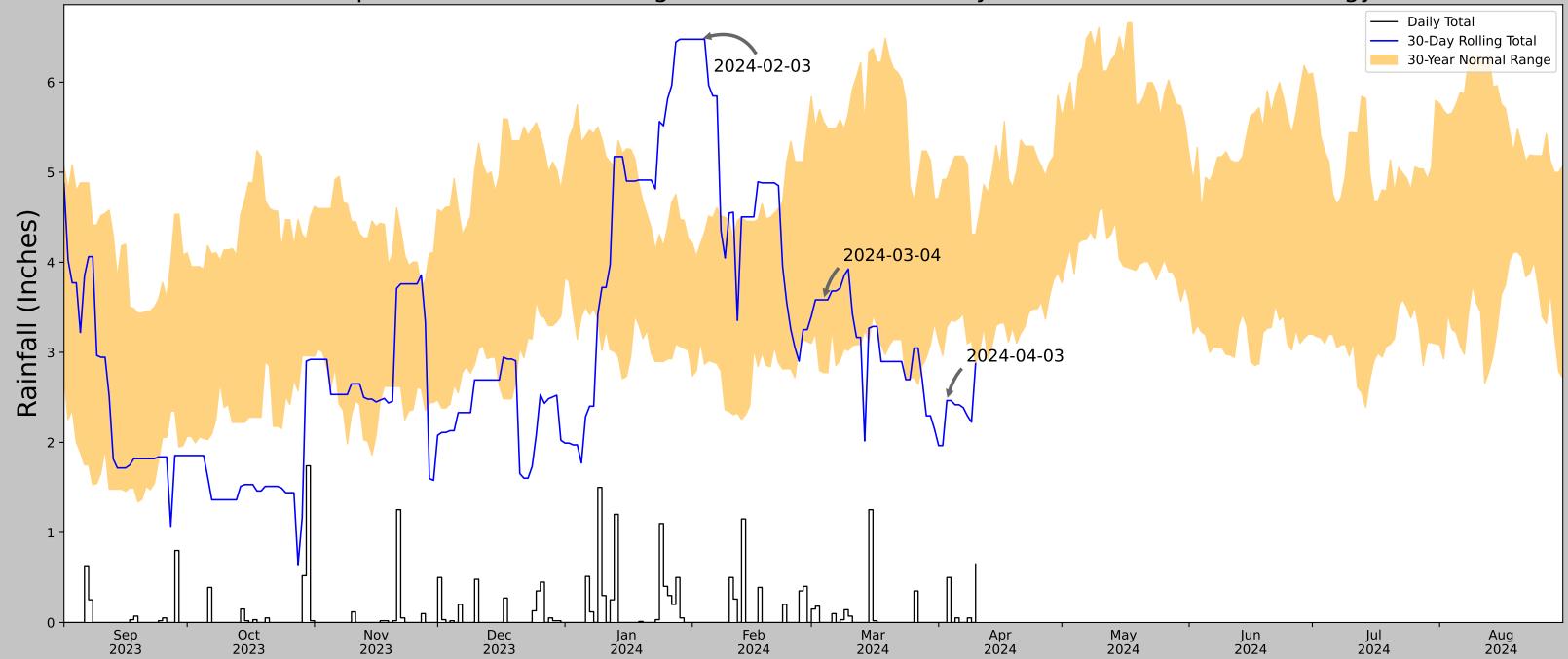


Coordinates	37.1043, -86.9827
Observation Date	2024-04-02
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought (2024-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-04-02	2.965748	4.917323	1.964567	Dry	1	3	3
2024-03-03	2.799213	5.693307	3.582677	Normal	2	2	4
2024-02-02	2.79685	4.062599	6.476378	Wet	3	1	3
Result							Normal Conditions - 10

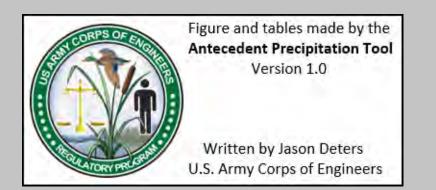


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

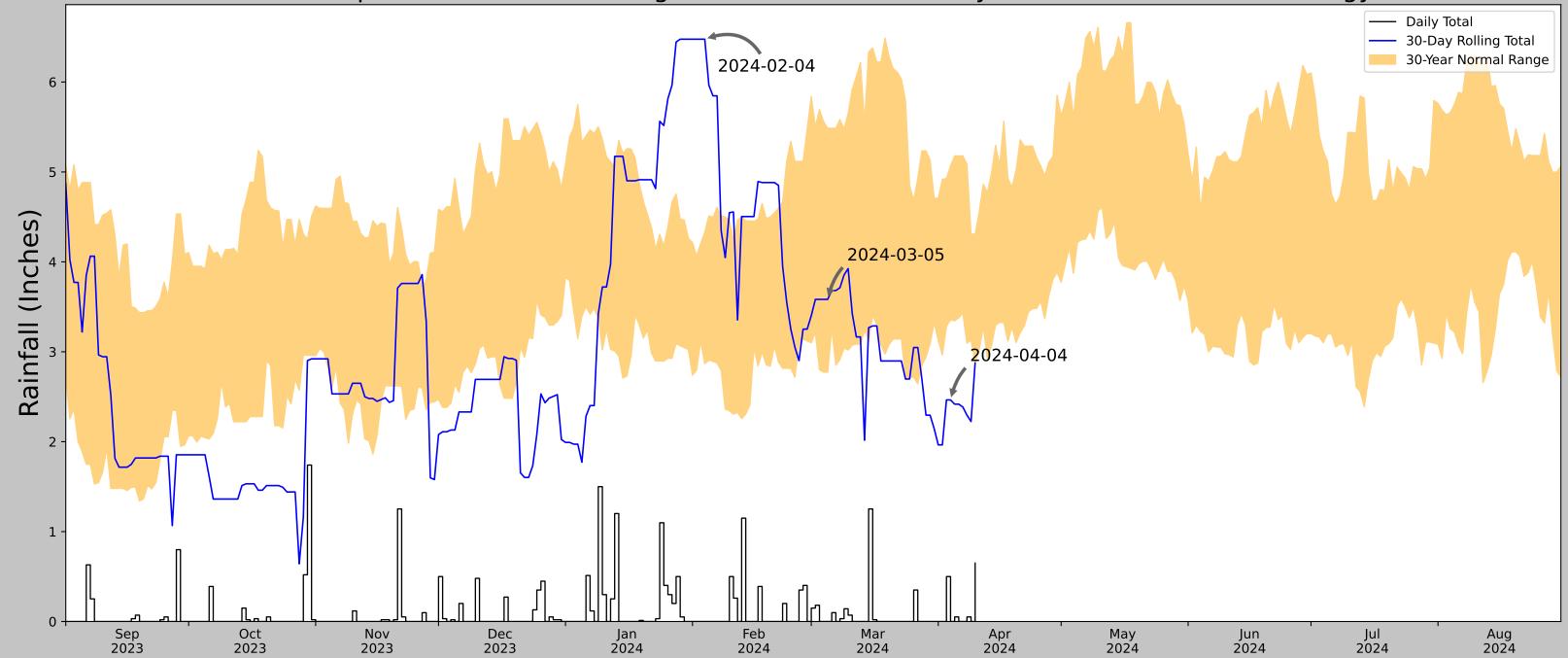


Coordinates	37.1043, -86.9827
Observation Date	2024-04-03
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought (2024-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-04-03	3.283858	4.926772	2.464567	Dry	1	3	3
2024-03-04	2.773228	5.559055	3.582677	Normal	2	2	4
2024-02-03	3.120473	4.203543	6.476378	Wet	3	1	3
Result							Normal Conditions - 10

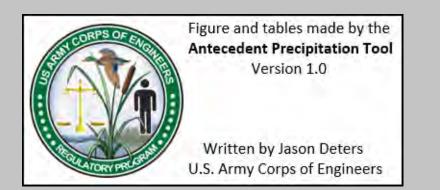


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

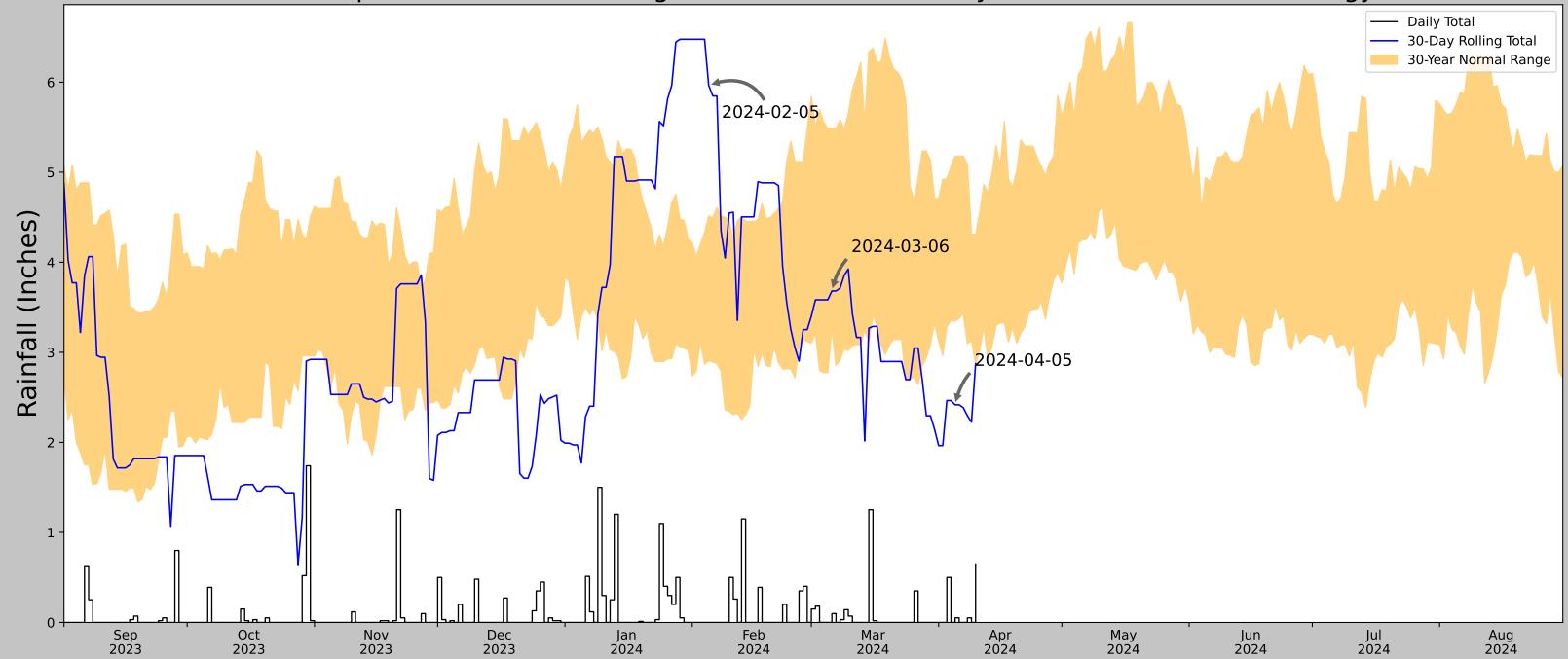


Coordinates	37.1043, -86.9827
Observation Date	2024-04-04
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought (2024-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-04-04	3.356299	5.067323	2.464567	Dry	1	3	3
2024-03-05	2.773228	5.486221	3.582677	Normal	2	2	4
2024-02-04	2.866142	4.331496	6.476378	Wet	3	1	3
Result							Normal Conditions - 10

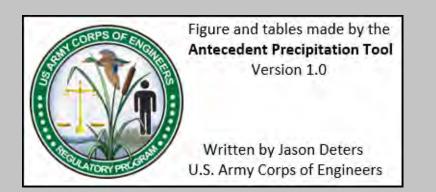


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

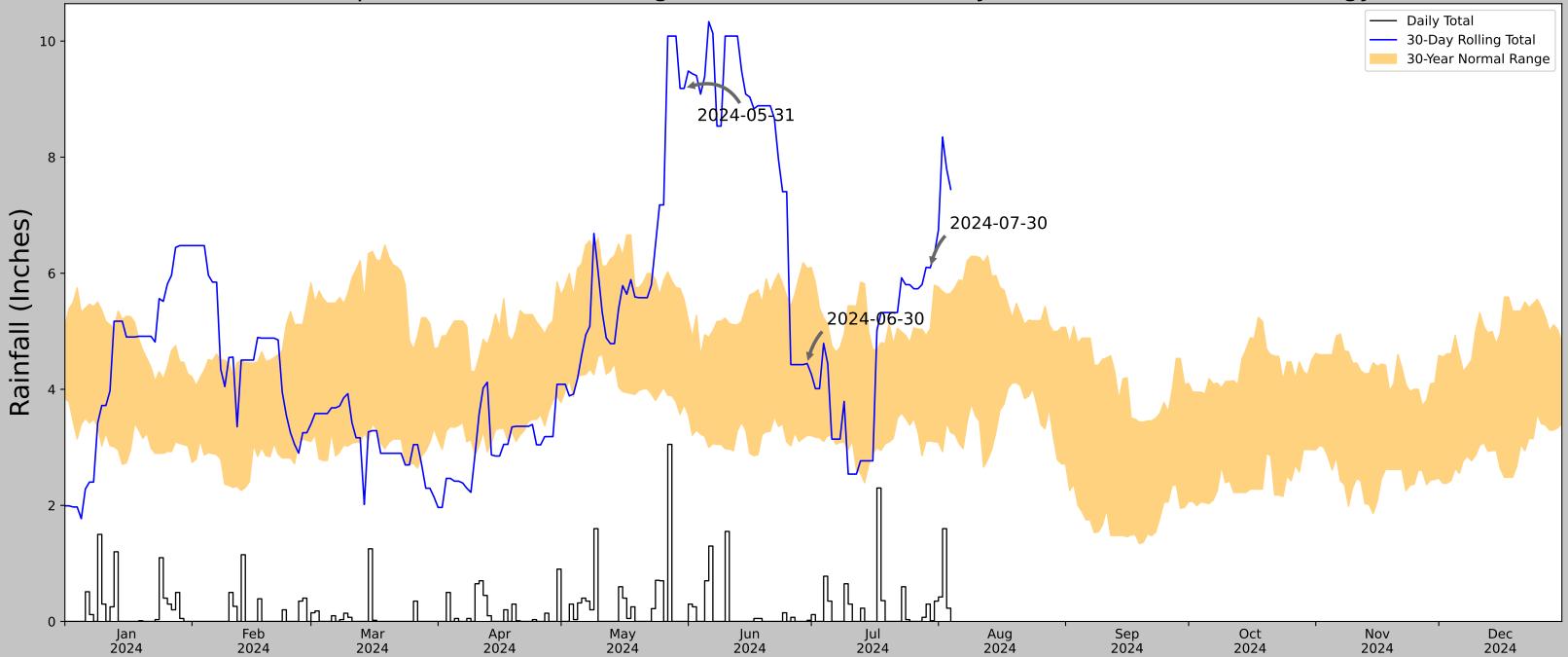


Coordinates	37.1043, -86.9827
Observation Date	2024-04-05
Elevation (ft)	489.553
Drought Index (PDSI)	Moderate drought (2024-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-04-05	3.344488	5.17874	2.417323	Dry	1	3	3
2024-03-06	3.257874	5.486221	3.681102	Normal	2	2	4
2024-02-05	2.908268	4.512992	5.964567	Wet	3	1	3
Result							Normal Conditions - 10

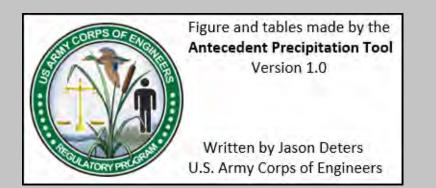


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2167, -86.8936	390.092	9.186	99.461	5.047	10119	89
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.484	11.811	2.533	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.754	132.874	3.937	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.931	54.79	4.003	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.43	100.065	6.287	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.115	41.995	6.453	0	1
POWDERLY	37.235, -87.1514	444.882	14.239	54.79	7.188	6	0
WOODBURY	37.1853, -86.6336	439.961	14.472	49.869	7.234	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.745	42.979	7.762	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	29.856	7.815	1	0

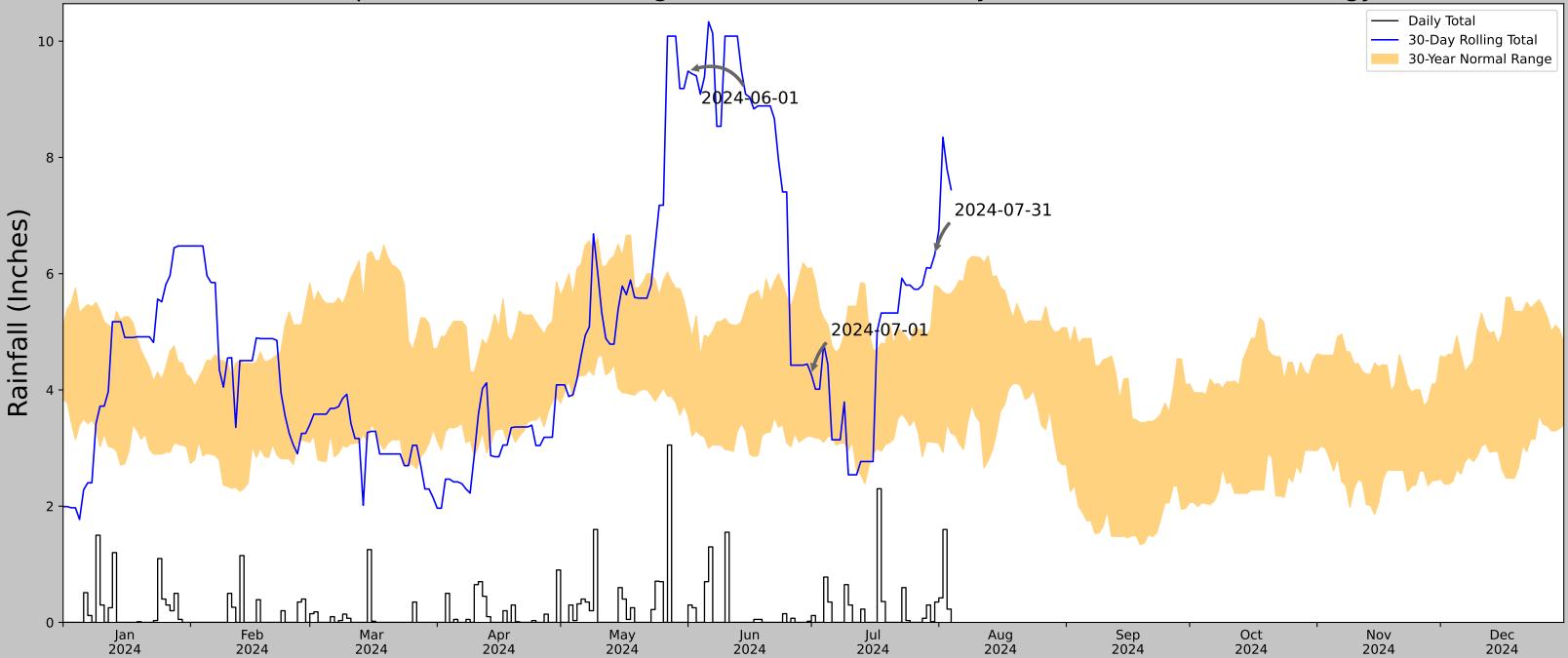


Coordinates	37.087774, -86.969912
Observation Date	2024-07-30
Elevation (ft)	508.321
Drought Index (PDSI)	Incipient drought (2024-06)
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-07-30	3.107874	5.047244	6.094488	Wet	3	3	9
2024-06-30	3.201969	6.082284	4.444882	Normal	2	2	4
2024-05-31	3.735039	5.54252	9.18504	Wet	3	1	3
Result							Wetter than Normal - 16

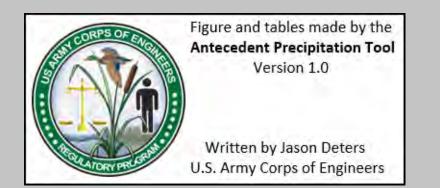


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2164, -86.8939	399.934	9.824	108.387	5.485	10119	86
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.481	1.969	2.477	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.731	123.032	3.857	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.956	44.948	3.938	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.449	90.223	6.185	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.136	32.153	6.334	0	4
POWDERLY	37.235, -87.1514	444.882	14.225	44.948	7.041	6	0
WOODBURY	37.1853, -86.6336	439.961	14.486	40.027	7.099	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.721	33.137	7.595	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	20.014	7.655	1	0

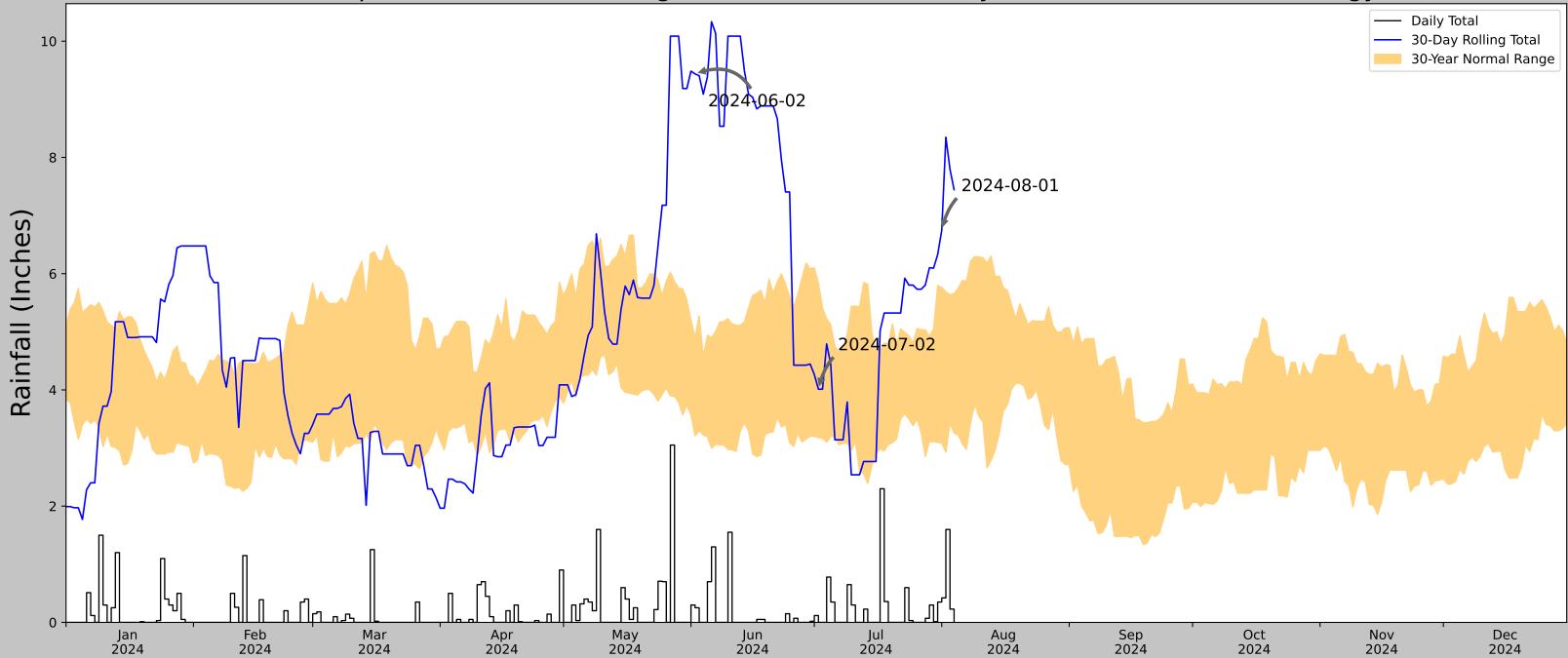


Coordinates	37.087774, -86.969912
Observation Date	2024-07-31
Elevation (ft)	508.321
Drought Index (PDSI)	Incipient drought (2024-06)
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-07-31	3.094882	5.795276	6.326772	Wet	3	3	9
2024-07-01	3.201969	6.101969	4.26378	Normal	2	2	4
2024-06-01	3.564961	5.201969	9.484252	Wet	3	1	3
Result							Wetter than Normal - 16

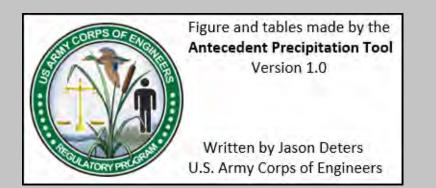


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2164, -86.8939	399.934	9.824	108.387	5.486	10119	86
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.481	1.969	2.477	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.731	123.032	3.857	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.956	44.948	3.938	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.449	90.223	6.185	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.136	32.153	6.334	0	4
POWDERLY	37.235, -87.1514	444.882	14.225	44.948	7.041	6	0
WOODBURY	37.1853, -86.6336	439.961	14.486	40.027	7.099	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.721	33.137	7.595	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	20.014	7.655	1	0

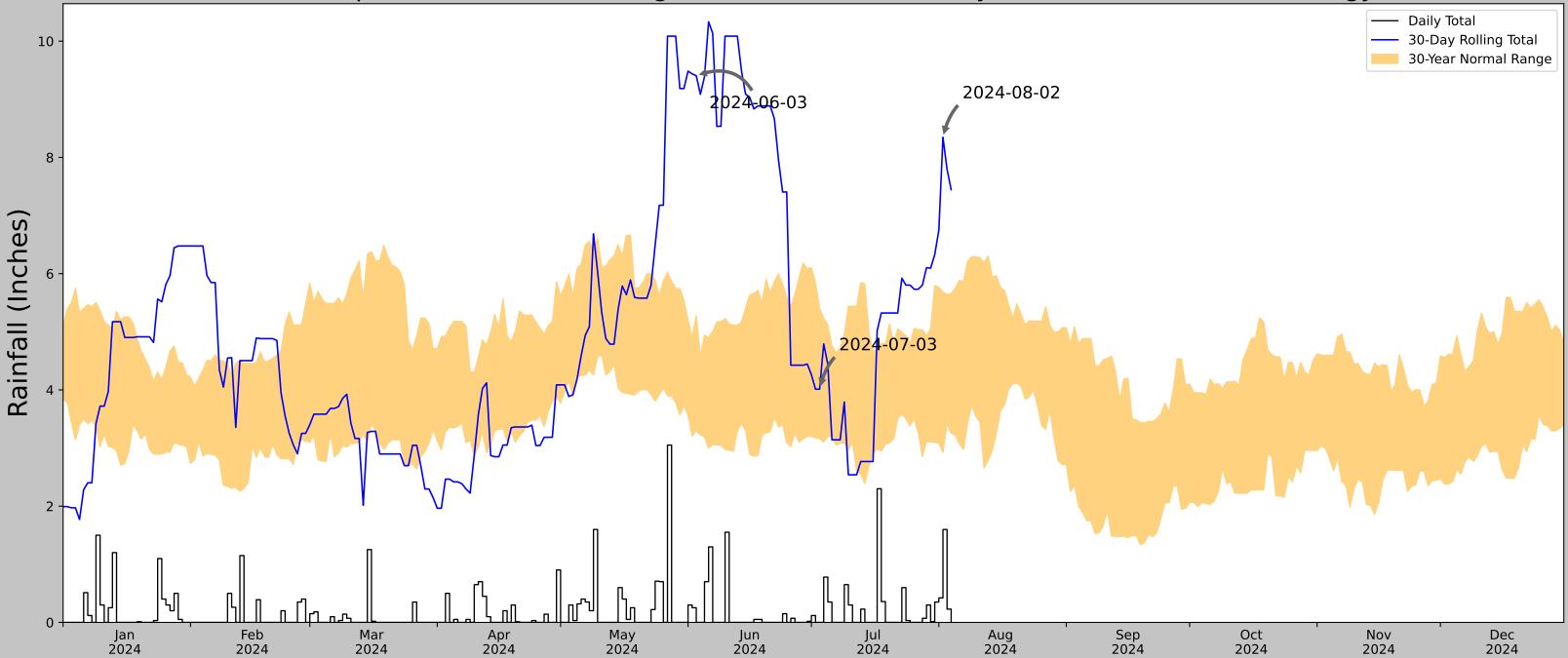


Coordinates	37.087774, -86.969912
Observation Date	2024-08-01
Elevation (ft)	508.321
Drought Index (PDSI)	Not available (2024-07)
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-08-01	3.085433	5.764173	6.748032	Wet	3	3	9
2024-07-02	3.174803	5.837795	4.011811	Normal	2	2	4
2024-06-02	3.20748	4.899213	9.437008	Wet	3	1	3
Result							Wetter than Normal - 16

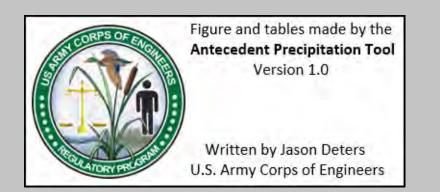


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2164, -86.8939	399.934	9.824	108.387	5.486	10119	86
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.481	1.969	2.477	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.731	123.032	3.857	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.956	44.948	3.938	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.449	90.223	6.185	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.136	32.153	6.334	0	4
POWDERLY	37.235, -87.1514	444.882	14.225	44.948	7.041	6	0
WOODBURY	37.1853, -86.6336	439.961	14.486	40.027	7.099	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.721	33.137	7.595	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	20.014	7.655	1	0



Coordinates	37.087774, -86.969912
Observation Date	2024-08-02
Elevation (ft)	508.321
Drought Index (PDSI)	Not available (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
2024-08-02	2.926378	5.686221	8.346457	Wet	3	3	9
2024-07-03	3.165748	5.405512	4.011811	Normal	2	2	4
2024-06-03	3.298425	5.275197	9.405512	Wet	3	1	3
Result							Wetter than Normal - 16



Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ROCHESTER FERRY	37.2164, -86.8939	399.934	9.824	108.387	5.486	10119	86
PARADISE STEAM PLT	37.2592, -86.9778	401.903	5.481	1.969	2.477	456	0
BELTON 2 NE	37.1839, -87.0092	522.966	6.731	123.032	3.857	1	0
BEAVER DAM 5.7 SSE	37.3237, -86.8414	444.882	7.956	44.948	3.938	80	0
ABERDEEN	37.2317, -86.6867	490.157	11.449	90.223	6.185	686	0
BEAVER DAM 0.6 NW	37.4064, -86.8855	432.087	13.136	32.153	6.334	0	4
POWDERLY	37.235, -87.1514	444.882	14.225	44.948	7.041	6	0
WOODBURY	37.1853, -86.6336	439.961	14.486	40.027	7.099	1	0
LEWISBURG	36.9925, -86.9447	433.071	15.721	33.137	7.595	2	0
GREEN RVR PWR STN	37.3656, -87.1233	419.948	16.287	20.014	7.655	1	0

Appendix D Field Data Forms

Project/Site: Lost City Solar	City/County: Muh	llenberg County Sa	ampling Date: 2024-04-02
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	
Investigator(s): M. Herod, S. Davis	Section, Township,	Range: N/A	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, o	convex, none): None	Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A La	,	· —	
Soil Map Unit Name: Belknap silt loam, 0 to 2		•	
Are climatic / hydrologic conditions on the site typical			•
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site i			
Hydric Soil Present? Yes	No ✓ No ✓ No ✓ within a We		No <u>√</u>
Remarks:			
One or more parameters lacking; a conducted a due diligence review of hydrologic conditions were normal	of the Antecedent Precipi		
HYDROLOGY			
Wetland Hydrology Indicators:		-	s (minimum of two required)
Primary Indicators (minimum of one is required; che	****	Surface Soil Cra	
	_ True Aquatic Plants (B14)		ated Concave Surface (B8)
	_ Hydrogen Sulfide Odor (C1)	Drainage Patter	
	Oxidized Rhizospheres on Living R		
	Presence of Reduced Iron (C4)	Dry-Season Wa	
	Recent Iron Reduction in Tilled Soi		
	Thin Muck Surface (C7)		ele on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Sturited of Stres	ssed Plants (D1)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)		Shallow Aquitar	, ,
Water-Stained Leaves (B9)		Microtopograph	
Aquatic Fauna (B13)		FAC-Neutral Te	
Field Observations:		1710 Noutidi 10	St (D0)
	Depth (inches):		
	Depth (inches):		
		Wetland Hydrology Present?	Yes No✓
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspecti	ons), if available:	
Remarks:			
No primary and only one secondary	v indicator of wetland hyd	drology present: parar	meter lacking
The primary and only one eccentual	, maioator or motiana ny	arology procent, paral	notor laorang.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-001
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. Acer rubrum	10	<u> </u>	FAC	That Are OBL, FACW, or FAC:1 (A)
2. Liriodendron tulipifera	5	Y	FACU	Total Number of Dominant
3				Species Across All Strata: 6 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 16.67 (A/B)
6				(745)
7.				Prevalence Index worksheet:
	15.0	= Total Cove	er	Total % Cover of: Multiply by:
50% of total cover: 7.5				OBL species 0.00 x 1 = 0.00
Sapling/Shrub Stratum (Plot size: 15' radius)		•		FACW species <u>0.00</u> x 2 = <u>0.00</u>
1. Lonicera mackii	15	Υ	UPL	FAC species $10.00 \times 3 = 30.00$
2. Fagus grandifolia		Y	FACU	FACU species 40.00 x 4 = 160.00
			.,,,,,,	UPL species 15.00 x 5 = 75.00
3				Column Totals: 65.00 (A) 265.00 (B)
4				
5				Prevalence Index = B/A = 4.08
6		-		Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
40.0		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:10.0	20% of	total cover:	4.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)			=	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Podophyllum peltatum	15	<u>Y</u>	FACU	residinate riyalophytic vegetation (Explain)
2. Rosa multiflora	15	Y	FACU	¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Harb All back as a configuration of a last a second as
	30.0	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:15.0				
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				neight.
2.				
3.				
4				
				Hydrophytic
5	_			Vegetation Present? Yes No✓_
50% of total cover: 0.0		= Total Cover		
		total cover.	0.0	
Remarks: (Include photo numbers here or on a separate sl Indicators of hydrophytic vegetation abs		rameter	lacking	1
maloatoro or riyaropriytic vogotation abo	ont, pa	idiliotoi	idoltilig	j.

SOIL Sampling Point: DP-001

Profile Desc	ription: (D	escribe 1	to the dep	th needed	to docur	nent the i	ndicator	or confirm	n the absenc	e of indicato	ors.)	
Depth		Matrix			Redo	x Features	S					
(inches)	Color (ı		%	Color (r	noist)	%	Type ¹	Loc ²	Texture	_	Remarks	
0-2	10YR	3/4	100						SIL	_		_
2-17	10YR	4/3	20						SIL			
	10YR	5/3	80						SIL			
17-18	10YR	6/2	90	10YR	6/8	10	С	M	SIL			
17-10	1011	0/2		1011	0/0			IVI	OIL			
										_		
				-								
		_										
				-					-	_		·
									-	_		
										_		
¹Type: C=Co			letion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gra	ins.			ng, M=Matrix.	a 3
Hydric Soil I											oblematic Hydric	Soils":
Histosol					k Surface		(00) (1)	I D A 447		,	A10) (MLRA 147)	
Histic Ep	oipedon (A2	(.)				elow Surfa Irface (S9)			148)	(MLRA 14)	Redox (A16)	
	n Sulfide (A	14)				ed Matrix (47, 140)			7, 146) odplain Soils (F19))
	d Layers (A				oleted Ma)		_	(MLRA 130		''
	ick (A10) (L	,				Surface (F	6)				Dark Surface (TF	12)
	Below Da		e (A11)			rk Surface			_	Other (Explai	n in Remarks)	,
	ark Surface					essions (F						
	lucky Miner		.RR N,			ese Masse	es (F12) (I	_RR N,				
	147, 148)				MLRA 13				3.			
	leyed Matri	ix (S4)				ice (F13) (drophytic vegetat	
	edox (S5)					odplain S					logy must be prese	ent,
Restrictive I	Matrix (S6)			Rec	a Parent i	Material (F	21) (WLR	4 127, 147	/) u	niess disturbe	ed or problematic.	
	-1 \									!! D	V N	. /
	ches):								Hydric So	il Present?	Yes N	o <u>v</u>
Remarks:	vil indica	tore o	hoont:	narama	tor loc	kina						
Hydric sc	III II IUICa	alois a	bseni,	parame	ter iac	Kilig.						

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-12
	State: Kentucky Sampling Point: DP-002
Investigator(s): M. Herod, S. Davis	Section, Township, Range: N/A
	Local relief (concave, convex, none): None Slope (%): 0-2
	Datum: WGS84
	slopes, occasionally flooded NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of	
	antly disturbed? Are "Normal Circumstances" present? Yes ✓ No
	y problematic? (If needed, explain any answers in Remarks.)
	ring sampling point locations, transects, important features, etc.
· ·	within a Wetland? Yes ✓ No No No
conducted a due diligence review of the Ant hydrologic conditions were normal at the time	tecedent Precipitation Tool (APT) and determined that ne of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	ply) Surface Soil Cracks (B6)
	tic Plants (B14) Sparsely Vegetated Concave Surface (B8)
	Sulfide Odor (C1) Drainage Patterns (B10)
	hizospheres on Living Roots (C3) Moss Trim Lines (B16)
	of Reduced Iron (C4) Dry-Season Water Table (C2)
	n Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
	Surface (C7) Saturation Visible on Aerial Imagery (C9)
	lain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
✓ Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes ✓ No Depth (inc	shes): 3
Water Table Present? Yes No _ ✓ Depth (inc	
Saturation Present? Yes No _ ✓ Depth (inc	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial p	notos, previous inspections), if available:
Remarks: At least one primary or two secondary indicates the secondary indicat	ators observed: parameter met
The local circ primary of two occordary indica	atoro obborroa, parameter met

	Absolute	Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' radius)		Species?		Number of Dominant Species
1. Acer saccharinum	30	<u> </u>	FACW	That Are OBL, FACW, or FAC: (A)
2. Liquidambar styraciflua	15	<u>Y</u>	FAC	Total Number of Dominant
3. Platanus occidentalis	5	N	FACW	Species Across All Strata: 2 (B)
4.				
5				Percent of Dominant Species That Are OBL, FACW, or FAC:100.00 (A/B)
6				That Are OBL, FACW, or FAC. 100:00 (A/B)
7				Prevalence Index worksheet:
1	50.0	= Total Cove		Total % Cover of: Multiply by:
50% of total cover: 25.0				OBL species 0.00 x 1 = 0.00
·	20 / 01	iolai cover.	10.0	FACW species $35.00 \times 2 = 70.00$
Sapling/Shrub Stratum (Plot size: 15' radius) 1. No rooted saplings/shrubs present				FAC species 15.00 x 3 = 45.00
	-			FACU species 0.00 x 4 = 0.00
2				UPL species $0.00 \times 5 = 0.00$
3				
4				Column Totals: <u>50.00</u> (A) <u>115.00</u> (B)
5				Prevalence Index = B/A = 2.3
6				Hydrophytic Vegetation Indicators:
7				
8				1 - Rapid Test for Hydrophytic Vegetation
9.				✓ 2 - Dominance Test is >50%
	_	= Total Cove	er .	✓ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover:0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)		<u>-</u>		data in Remarks or on a separate sheet)
4. No rooted borbs present				Problematic Hydrophytic Vegetation ¹ (Explain)
·				
2 3.				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 0.0	20% of	total cover:	0.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:30' radius)				height.
1. No rooted vines present				
2				
3				
4				Hydrophytic
5.				Hydrophytic Vegetation
	0	= Total Cove		Present? Yes _ ✓ No
50% of total cover:0.0				
Remarks: (Include photo numbers here or on a separate s				
Indicator 2 (Dominance Test) present w Dominance Test and Prevalence Index	ith all d		-	=

Sampling Point: DP-002

Sampling Point: DP-002

SOIL

Profile Desc	ription: (D	escribe t	o the dep	th needed	to docur	nent the i	ndicator	or confirm	the absen	ce of indicat	ors.)		
Depth		Matrix			Redo	x Features	;						
(inches)	Color (r		%	Color (r	noist)	%	_Type ¹	Loc ²	Texture		Rema	rks	
0-3	10YR	3/2	90	10YR	5/6	10	С	M/PL	SIL				
3-10	10YR	4/2	90	10YR	5/6	10	С	M/PL	SIL				
10-18	10YR	4/2	70	10YR	4/6	10			SIL	_			
	10YR	6/2	20		170		-		SIL				
	1011	0/2		-									
	'												
							-	· ——		_			
	-						-		ī				
							-		-				
¹ Type: C=Co			etion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		PL=Pore Lir			
Hydric Soil				_		(- -)			ina			c Hydric Soils ³ :	
Histosol		`			k Surface		- (00) (N DA 447	440)	2 cm Muck			
	oipedon (A2)						MLRA 147,	148)	Coast Prairi		(16)	
Black Hi	siic (A3) en Sulfide (A	(4)				ırface (S9) ed Matrix (I		147, 140)		(MLRA 1 Piedmont F		oile (F10)	
	d Layers (At				oleted Ma		2)			(MLRA 1		olis (F19)	
	ick (A10) (L					Surface (F	6)			•		face (TF12)	
	d Below Dai		(A11)			rk Surface	,			Other (Expl			
	ark Surface		, ,			essions (F8						•	
Sandy M	lucky Miner	al (S1) (L	RR N,	Iron	-Mangan	ese Masse	es (F12) (LRR N,					
	A 147, 148)				MLRA 13	•							
	Bleyed Matri	x (S4)				ce (F13) (vegetation and	
	Redox (S5)							(MLRA 14		wetland hydr			
	Matrix (S6)			Red	Parent N	Material (F	21) (MLR	A 127, 147	')	unless distur	bed or prob	lematic.	
Restrictive I	Layer (if ob	served):											
Type:												,	
	ches):								Hydric S	oil Present?	Yes	/ No	
Remarks:	9.3		(D.		(. ·				. 1				
Hydric so	oli indica	itor F3	(рері	eted ivia	trix) pi	resent;	paran	neter me	et.				

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-03
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-003
	Section, Township, Range: N/A
	ocal relief (concave, convex, none): None Slope (%): 3-7
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.09453	9 Long: -86.971396 Datum: NAD83
Soil Map Unit Name: Wellston silt loam, 6 to 12 percent	
Are climatic / hydrologic conditions on the site typical for this time of year	
	/ disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally pr	
	g sampling point locations, transects, important features, etc.
,	
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓	Is the Sampled Area
Wetland Hydrology Present? Yes No ✓	within a Wetland? Yes No
Remarks:	<u> </u>
	considered a definitional wetland. The lead delineator
conducted a due diligence review of the Antec	cedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the time	of survey.
HYDROLOGY	Occasional de l'action (all'allement de l'action de l'
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) True Aquatic F	
High Water Table (A2) Hydrogen Sulfi	
	ospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Ri	educed Iron (C4) Dry-Season Water Table (C2) eduction in Tilled Soils (C6) Crayfish Burrows (C8)
Sediment Deposits (B2) Recent Iron Re Drift Deposits (B3) Thin Muck Sur	
Algal Mat or Crust (B4) Other (Explain	
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches	s):
Water Table Present? Yes No Depth (inches	s):
Saturation Present? Yes No _ ✓ Depth (inches	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photometric production)	os previous inspections), if available:
, , , ,	об, рголово твресоголој, т влавис.
Remarks:	
No primary and only one secondary indicator of	of wetland hydrology present; parameter lacking.

Herb Stratum (Plot size: 5' radius) 1. No rooted herbs present 2	/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-003
1. Quercus alba 2. Fagus grandifolia 2. Fagus grandifolia 3. Linicodendon tulipifera 5. N. FACU 4. Quercus rubra 5. N. FACU 5. N. FACU 5. N. FACU 6. Septimo from tulipifera 7. Septimo from tulipifera 5. N. FACU 5. N. FACU 6. Septimo from tulipifera 7. Septimo from tulipifera 8. Septimo from tulipifera 8. Septimo from tulipifera 9. Septimo from tulipifera 9. Septimo from tulipifera 9. Septimo from tulipifera 1. Fagus grandifolia 1. Fagus grandifolia 1. Fagus grandifolia 1. Septimo from tulipifera 1. Fagus grandifolia 1.		Absolute	Dominant	Indicator	Dominance Test worksheet:
2. Fagus grandifolia	<u>Tree Stratum</u> (Plot size:30' radius)	% Cover	Species?	Status	Number of Dominant Species
Clail Number of Dominant Society Claim	1. Quercus alba	25	<u>Y</u>	FACU	
3	2. Fagus grandifolia	15	Y	FACU	Total Number of Deminent
4. Querous rubra	3. Liriodendron tulipifera	5	N	FACU	
5. N FACU FACU FA	4. Quercus rubra	5	N	FACU	(,
6.		5	N		
Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0.00 x1 = 0.00				17100	Inat Are OBL, FACW, or FAC: (A/B)
Solid Stratum Foliation Stratum Stratum Foliation Stratum Stratum Foliation Stratum			·		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius 15	<i>1</i>				Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius 15	FOO/ of total agrees 27 F				
15		20% 01	total cover.	11.0	'
FACU species TO.00 x4 = 280.00		4.5	V	EAGLI	0.00
## A				FACU	
4. Column Totals: 70.00 (A) 280.00 (B) 5. Hydrophytic Vegetation Indicators: 7. 1. Rapid Test for Hydrophytic Vegetation 8. 2. Dominance Test is >50% 9. 3. Prevalence Index s ≤3.0¹ 1. No rooted herbs present 3. Prevalence Index is ≤3.0¹ 1. No rooted herbs present 4. Morphological Adaptations¹ (Provide supportin data in Remarks or on a separate sheet) 1. No rooted herbs present 1 Indicators of hydric soil and welland hydrology must be present, unless disturbed or problematic. 2. Indicators of hydric soil and welland hydrology must be present, unless disturbed or problematic. 5. Definitions of Four Vegetation Stratas: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 10. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 11. No rooted vines present 1. No rooted vines present 2. 3. All herbaccous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: _30' radius _) 1, No rooted vines present 4. Hydrophytic vegetation	2				
Prevalence Index = B/A = 4.0 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% of total cover: 7.5 20% of total cover: 3.0 4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation 4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation '(Explain) 4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation '(Explain) Problematic Hydrophytic Vegetation '(Form) Pro	3				<u> </u>
6.	4				Column Totals: 10.00 (A) 280.00 (B)
Hydrophytic Vegetation Indicators: 7.	5				Prevalence Index $= R/\Delta = 4.0$
7.	6				
8					
9.					
15.0 = Total Cover 7.5 20% of total cover: 3.0					
So% of total cover: 7.5 20% of total cover: 3.0 data in Remarks or on a separate sheet) 1. No rooted herbs present 2.	<u>. </u>	15.0	– Total Cov		
Herb Stratum (Plot size:5' radius	50% of total cover: 7.5				4 - Morphological Adaptations ¹ (Provide supporting
1. No rooted herbs present 2		2070 01	total oover.	0.0	data in Remarks or on a separate sheet)
2	11010 Ottatam (1101 0120:)				Problematic Hydrophytic Vegetation ¹ (Explain)
3			·		
be present, unless disturbed or problematic. Definitions of Four Vegetation Stratas: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) o 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 Stratum (Plot size: 30' radius) 1. No rooted vines present 2.					¹ Indicators of hydric soil and wetland hydrology must
5	3				
6	4		·		Definitions of Four Vegetation Strata:
o	5				- W. J. J. S. S. (70.)
7. height. 8. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 11. O = Total Cover 50% of total cover: 0.0 20% of total cover: 0.0 Woody Vine Stratum (Plot size: 30' radius) 1. No rooted vines present Woody vine Stratum (Plot size: 30' radius) 2. Woody vine - All woody vines greater than 3.28 ft in height. 4. Hydrophytic Vegetation Present? 5. Hydrophytic Vegetation Present? Yes No✓	6				
8	7				
9					
10					
11	10				1 \
O = Total Cover O.0 Stratum (Plot size: 30' radius 1. No rooted vines present O = Total Cover O.0 O = Total Cover O.0 O O O O O O O O O					
So% of total cover: 0.0 20% of total cover: 0.0 Woody Vine Stratum (Plot size: 30' radius) 1. No rooted vines present 2.		0	- Total Cov		
Woody Vine Stratum (Plot size: 30' radius) 1. No rooted vines present 2.	50% of total cover: 0.0				or size, and woody plants less than 5.20 it tall.
1. No rooted vines present 2	·	2070 01	total oover.	0.0	, ,
2					height.
3					
4			·		
5	3				
	4		·		Hydrophytic
50% of total cover: 20% of total cover: 0.0 20% of total cover: 0.0 Remarks: (Include photo numbers here or on a separate sheet.)	5				
Remarks: (Include photo numbers here or on a separate sheet.)					Present? Yes No
	50% of total cover: 0.0	20% of	total cover:	0.0	
Indicators of hydrophytic vegetation absent; parameter lacking.					
	Indicators of hydrophytic vegetation abs	ent; pa	rameter	lacking	J.

Sampling Point: DP-003

Profile Desc	cription: (D	escribe	to the dept	h needed to docur	nent the i	ndicator o	or confirm	the absence	of indicat	ors.)		
Depth		Matrix		Redo	x Features	8						
(inches)	Color (n	noist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	ks	
0-2	10YR	3/3	100					SIL				
2-10	10YR	3/4	100					SIL	-			
-									-			
10-18	<u>7.5YR</u>	5/6	100					SICL				
					-							
	'											
									-			
	-											
									-			
		, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ins.	² Location: P				
Hydric Soil	Indicators:							Indica	ators for P	roblematio	: Hydric S	oils³:
Histosol	(A1)			Dark Surface	(S7)			2	cm Muck ((A10) (MLR	A 147)	
Histic E	pipedon (A2))		Polyvalue Be	low Surfa	ce (S8) (M	LRA 147,	148) C	oast Prairi	e Redox (A	16)	
Black H	istic (A3)			Thin Dark Su	rface (S9)	(MLRA 1	47, 148)		(MLRA 14	47, 148)		
Hydroge	en Sulfide (A	4)		Loamy Gleye	d Matrix (F2)		P	iedmont Fl	oodplain So	oils (F19)	
Stratifie	d Layers (A5	5)		Depleted Ma					(MLRA 1	36, 147)		
	uck (A10) (L l			Redox Dark		6)		V		w Dark Surf	ace (TF12	2)
Deplete	d Below Dar	k Surface	e (A11)	Depleted Da						ain in Rema		
Thick Da	ark Surface	(A12)		Redox Depre	ssions (F	3)						
Sandy N	Mucky Minera	al (S1) (L	.RR N,	Iron-Mangan	ese Mass	es (F12) (I	RR N,					
	A 147, 148)			MLRA 13								
	Gleyed Matrix	x (S4)		Umbric Surfa	ce (F13) (MLRA 13	6, 122)	³ Ind	icators of h	ydrophytic	vegetation	n and
	Redox (S5)	` ,		Piedmont Flo						ology must	-	
	d Matrix (S6)			Red Parent N						oed or prob		,
Restrictive						, (, 		<u> </u>		
Type:	., .	,										
	-h\·							Hardeia Cail	D	V	Na	/
	ches):							Hydric Soil	Present?	Yes	No _	
Remarks:	. 11 1		l		1							
Hydric so	oli indica	tors a	bsent; p	parameter lac	king.							

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-03
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-004
	Section, Township, Range: N/A
9 17	Local relief (concave, convex, none): Convex Slope (%): 3-7
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.099	-
· · · · · · · · · · · · · · · · · · ·	cent slopes, severely eroded NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time	
	cantly disturbed? Are "Normal Circumstances" present? Yes _ ✓ No
	lly problematic? (If needed, explain any answers in Remarks.)
	wing sampling point locations, transects, important features, etc.
Lhidraphitia Vagatatian Present?	/
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓	Is the Sampled Area
Wetland Hydrology Present? Yes No ✓	within a Wetland? Yes No
Remarks:	
	ot considered a definitional wetland. The lead delineator
•	ntecedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the tin	me of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	pply) Surface Soil Cracks (B6)
Surface Water (A1) True Aqua	atic Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen	Sulfide Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized F	Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence	of Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iro	on Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
	k Surface (C7) Saturation Visible on Aerial Imagery (C9)
	plain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes No _ ✓ _ Depth (inc	nches):
Water Table Present? Yes No _ ✓ Depth (inc	·
Saturation Present? Yes No Depth (inc	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial p	pnotos, previous inspections), if available:
Remarks: Indicators of wetland hydrology absent; par	ramotor lacking
Indicators of wetland hydrology absent, par	rameter lacking.

	Absolute	Dominant I		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC:0 (A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				
	0	= Total Cove	er	Total % Cover of: Multiply by:
50% of total cover: 0.0	20% of	total cover:_	0.0	OBL species 0.00 x 1 = 0.00
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species $0.00 \times 2 = 0.00$
1. No rooted saplings/shrubs present				FAC species $0.00 \times 3 = 0.00$
2				FACU species $0.00 \times 4 = 0.00$
3				UPL species $100.00 \times 5 = 500.00$
4				Column Totals: <u>100.00</u> (A) <u>500.00</u> (B)
5				Prevalence Index = B/A = 5.0
6				
7				Hydrophytic Vegetation Indicators:
8		·		1 - Rapid Test for Hydrophytic Vegetation
9				2 - Dominance Test is >50%
		= Total Cove	er	3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)	_	_	<u>.</u>	data in Remarks or on a separate sheet)
1. Phelum pretense	100	Υ	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
2		-		
3				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>50.0</u>) 20% of	total cover:_	20.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)				height.
1. No rooted vines present				
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cove	er	Present? Yes No✓
50% of total cover: 0.0	20% of	total cover:_	0.0	
Remarks: (Include photo numbers here or on a separate s	heet.)			
Indicators of hydrophytic vegetation abs	sent: pa	rameter	lacking	1.
maioatoro et riyaropriyaro vegetaaron abe	, pa			9.
Vogotation significantly disturbed due to	rocont	nlantina	with f	orago grass
Vegetation significantly disturbed due to	recent	piaritirig	vviti 10	uraye yrass.

Sampling Point: DP-004

SOIL Sampling Point: DP-004

Profile Desc	ription: (Describe	to the depti	n needed to docum	nent the i	ndicator	or confirm	the absen	ce of indicat	tors.)	
Depth	Matrix		Redo	x Features	S					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	S
0-5	10YR 4/3	100					SIL			
5-13	10YR 4/4	100					SIL			
		100								
13-18	10YR 3/6	- <u> </u>					SIL_			
		·								
		- -								
		 ·								
		 ·								
1Typo: C-C	oncentration, D=Dep	Jotion PM-I	Poducod Matrix MS	S-Mackad	L Sand Gr	nine	² Location:	DI – Poro Liu	ning, M=Matrix	
Hydric Soil		netion, Kivi=i	Reduced Matrix, Mc	=iviaskeu	i Sanu Gra	aii i5.				tydric Soils³:
-			David Ouriface	(07)			iiiu			-
Histosol	, ,		Dark Surface		(00) (5)	U D A 447	4.40\		(A10) (MLRA	
	oipedon (A2)		Polyvalue Be				148)		ie Redox (A16	o)
Black Hi	, ,		Thin Dark Su			47, 148)		(MLRA 1		- (540)
	en Sulfide (A4)		Loamy Gleye		F2)		_		loodplain Soil	s (F19)
	d Layers (A5)		Depleted Mar		:0)			(MLRA 1		(TE 40)
	ick (A10) (LRR N)	- (0.4.4)	Redox Dark		,		_		w Dark Surfac	
	d Below Dark Surfac	e (A11)	Depleted Dar				_	Otner (Expl	ain in Remark	(S)
	ark Surface (A12)	DD N	Redox Depre			DD 11				
	Mucky Mineral (S1) (I	LKK N,	Iron-Mangan		es (F12) (I	LKK N,				
	A 147, 148)		MLRA 13	•	MI DA 40	0.400\	3,	a Partage of	harada a a barata a ca	and affine and
	Bleyed Matrix (S4)		Umbric Surfa						hydrophytic ve	-
	Redox (S5)		Piedmont Flo						ology must be	
	Matrix (S6)		Red Parent N	/laterial (F	21) (MLR .	A 127, 147)	unless distur	bed or proble	matic.
Restrictive I	Layer (if observed):									
Type:			<u> </u>							
Depth (in	ches):						Hydric S	oil Present?	Yes	No <u>√</u>
Remarks:										
Hydric so	oil indicators a	bsent; p	arameter lac	king.						
		•		Ū						

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-03
	State: Kentucky Sampling Point: DP-005
Investigator(s): M.Herod, S. Davis	Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Depression	cal relief (concave, convex, none): Concave Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.10868	· · · · · · · · · · · · · · · · · · ·
Soil Map Unit Name: Wellston silt loam, 2 to 6 percent	
Are climatic / hydrologic conditions on the site typical for this time of year	
Are Vegetation, Soil, or Hydrology significantly	,
Are Vegetation, Soil, or Hydrology naturally pr	
	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: All parameters met; area is considered a palus	Is the Sampled Area within a Wetland? Yes No Strine emergent (PEM) wetland. The lead delineator
	edent Precipitation Tool (APT) and determined that
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
✓ Surface Water (A1) True Aquatic P	
High Water Table (A2) Hydrogen Sulfi	
	ospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Re	
	eduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Sur	
Algal Mat or Crust (B4) Other (Explain	
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes ✓ No Depth (inches	n. 6
Water Table Present? Yes No Depth (inches	
Saturation Present? Yes No _ ✓ Depth (inches	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), il avaliable:
Remarks: At least one primary or two secondary indicate	ors observed: parameter met.
The second control of	, c

	Absolute	Dominant I	ndicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30' radius) 1. No rooted trees present	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
2				(1)
				Total Number of Dominant Species Across All Strata: 2 (B)
3			-	Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		
50% of total cover: 0.0	20% of	total cover:_	0.0	
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species $10.00 \times 2 = 20.00$
1. No rooted saplings/shrubs present				FAC species $0.00 \times 3 = 0.00$
2				FACU species <u>0.00</u> x 4 = <u>0.00</u>
3				UPL species <u>5.00</u> x 5 = <u>25.00</u>
4				Column Totals: <u>42.00</u> (A) <u>72.00</u> (B)
5				4.74
				Prevalence Index = B/A = 1.71
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0¹
		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:_	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Carex stricta	20	<u> </u>	OBL	1 Toblematic Trydrophytic Vegetation (Explain)
2. Juncus effusus	10	Y	FACW	The disease of headrings: I and westlessed headrest so were
3. Ludwigia palustris	7	N	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Stellaria media	5	N	UPL	Definitions of Four Vegetation Strata:
5				Definitions of Four Vegetation Strata.
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
				more in diameter at breast height (DBH), regardless of height.
7				neight.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 21.0	20% of	total cover:_	8.4	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)				height.
1. No rooted vines present				
2	-			
3				
4				Hudronkutia
5.				Hydrophytic Vegetation
		= Total Cove		Present? Yes No
50% of total cover:0.0				
Remarks: (Include photo numbers here or on a separate s				
		nt choci	00 EAG	CW or ORL: parameter met
Indicator 1 (Rapid Test) present with all		•		· •
Dominance Test and Prevalence Index	caiculai	iea for re	erenc	se purposes only.

Sampling Point: DP-005

Sampling Point: <u>DP-005</u>

Profile Desc	cription: (D	escribe t	o the dep	th needed	to docun	nent the i	ndicator	or confirm	the absen	ce of indicators.)			
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features													
(inches)	Color (%	Color (r		%	_Type ¹	Loc ²	Texture	Remarks			
0-2	10YR	5/2	90	10YR	6/8	10	С	M/PL	SI				
2-10	10YR	5/2	80	10YR	6/8	10	С	М	SIL				
	10YR	5/1	10		<u> </u>			·	SIL				
10-18	10YR	5/3	70	10YR	6/8	5							
	10YR		25		0,0			·		- ·			
	10111	0/2	_25_		-			·	-				
				-				- ——		<u> </u>			
				-									
							-						
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators for Problematic Hydric Soils ³ :													
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :													
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147)													
	pipedon (A2	2)						/ILRA 147,	148)	Coast Prairie Redox (A16)			
	istic (A3)	. 4\				ırface (S9)		147, 148)		(MLRA 147, 148)			
Stratifie	en Sulfide (A				oleted Ma	ed Matrix (l	F2)			Piedmont Floodplain Soils (F19) (MLRA 136, 147)			
	uck (A10) (L					Surface (F	6)			Very Shallow Dark Surface (TF12)			
	d Below Da		(A11)			rk Surface				Other (Explain in Remarks)			
	ark Surface					essions (F							
Sandy N			RR N,			ese Masse	es (F12) (LRR N,					
	A 147, 148) Gleyed Matri				MLRA 13	6) ice (F13) (MIRA 13	86 122)	3	Indicators of hydrophytic vegetation and			
	Redox (S5)	X (O4)						(MLRA 14		wetland hydrology must be present,			
	d Matrix (S6))						À 127, 147		unless disturbed or problematic.			
Restrictive	Layer (if ob	served):											
Type:													
Depth (in	ches):								Hydric S	oil Present? Yes <u>√</u> No			
Remarks:		. =0	(D)										
Hydric so	oil indica	ator F3	(Deple	eted Ma	trix) pr	esent;	paran	neter m	et.				

SOIL

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-03
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-006
Investigator(s): M.Herod, S.Davis	
Landform (hillslope, terrace, etc.): Other Lo	ocal relief (concave, convex, none): Convex Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.10783	0 Long: -86.977198 Datum: NAD83
Soil Map Unit Name: Wellston silt loam, 2 to 6 percent	
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes _ ✓ No (If no, explain in Remarks.)
Are Vegetation, soil, or Hydrology significantly	
Are Vegetation, Soil, or Hydrology naturally pr	
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No_ ✓	
Hydric Soil Present? Yes No_ ✓	Is the Sampled Area within a Wetland? Yes No✓
Wetland Hydrology Present? Yes No ✓	within a Wetland? Yes No✓
Remarks:	and the first transfer of the first transfer
1	onsidered a definitional wetland. The lead delineator
_	edent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the time	of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) True Aquatic F	
High Water Table (A2) Hydrogen Sulf	
	ospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of R	educed Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Re	eduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Sur	face (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain	in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches	,
Water Table Present? Yes No Depth (inches	
Saturation Present? Yes No _ ✓ Depth (inches (includes capillary fringe)	S): Wetland Hydrology Present? Yes No✓
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:
Remarks: Indicators of wetland hydrology absent; param	eter lacking.
maistre of welland nythology absornt, paran	otor lacturig.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-006
	Absolute	Dominant	ndicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Percent of Dominant Species
5	-			That Are OBL, FACW, or FAC: 0.00 (A/B)
6	-			Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		OBL species 2.00 x 1 = 2.00
50% of total cover: 0.0	20% of	total cover:	0.0	FACW species $0.00 \times 2 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				
1. No rooted saplings/shrubs present				
2				100.00
3	-			· — — — — — — — — — — — — — — — — — — —
4				Column Totals: 91.00 (A) 437.00 (B)
5				Prevalence Index = B/A = 4.8
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8	-			2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0¹
		= Total Cove		4 - Morphological Adaptations¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:_	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)				Problematic Hydrophytic Vegetation (Explain)
1. Stellaria media	80	<u> </u>	UPL	Froblematic Hydrophytic Vegetation (Explain)
2. Ranunculus sardous	5	<u>N</u>	<u>FAC</u>	1 Indicators of hydric soil and wetland hydrology must
3. Lamium amplexicaule	2	<u>N</u>	UPL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Lamium purpureum	2	<u>N</u>	<u>UPL</u>	Definitions of Four Vegetation Strata:
_{5.} Packera glabella	2	N	OBL	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8	-			Continue (Charles Was de missas au charlis a visus a la co
9	-			Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	91.0	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>45.5</u>				Woody vine All woody vines greater than 2.29 ft in
Woody Vine Stratum (Plot size: 30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				
2				
3				
4	-			Hydrophytic
5				Vegetation
	0	= Total Cove	er	Present? Yes No
50% of total cover: 0.0	20% of	total cover:	0.0	
Remarks: (Include photo numbers here or on a separate s	heet.)			
Indicators of hydrophytic vegetation abs	ent; pa	rameter	lacking	J.

Sampling Point: DP-006

SOIL

Depth	ription: (L	Matrix	to the deptr	needed to document the indicator or confi Redox Features	rm the ab	sence of indicat	ors.)	
(inches)	Color (ı		%	Color (moist) % Type ¹ Loc ²	Text	ure	Remark	S
0-4	10YR	3/4	100		SI	L		
4-18	10YR	4/3	100		SIC	CL		
		., -						
	-							
	-		 		_			
					_			
						-		
	-							
Type: C=Co	oncentration	n, D=Dep	letion, RM=F	Reduced Matrix, MS=Masked Sand Grains.	² Locat	ion: PL=Pore Lir	ning, M=Matr	ix.
ydric Soil			,	,		Indicators for F		
Histosol	(A1)			Dark Surface (S7)		2 cm Muck	(A10) (MLR A	A 147)
	ipedon (A2	2)		Polyvalue Below Surface (S8) (MLRA 14	17, 148)	Coast Prairi	e Redox (A1	6)
Black Hi	stic (A3)			Thin Dark Surface (S9) (MLRA 147, 148))	(MLRA 1	47, 148)	
	n Sulfide (A			Loamy Gleyed Matrix (F2)			loodplain Soi	ils (F19)
	d Layers (A			Depleted Matrix (F3)		(MLRA 1		
	ick (A10) (L		- (0.4.4)	Redox Dark Surface (F6)			w Dark Surfa	
	d Below Da		e (A11)	Depleted Dark Surface (F7)		Other (Expl	ain in Remar	KS)
	ark Surface lucky Miner		DD N	Redox Depressions (F8)Iron-Manganese Masses (F12) (LRR N,				
	147, 148)		LIXIX IV,	MLRA 136)				
	leyed Matri			Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of I	nvdrophytic v	regetation and
	edox (S5)	(- 1)		Piedmont Floodplain Soils (F19) (MLRA	148)	wetland hydr		
	Matrix (S6))		Red Parent Material (F21) (MLRA 127, 1		unless distur		
estrictive I	ayer (if ob	served):						
Type:				<u></u>				
Depth (inc	ches):				Hydri	ic Soil Present?	Yes	No _ √
Remarks:								
ydric so	oil indica	ators a	ıbsent; p	arameter lacking.				
				_				

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-03							
Applicant/Owner: Lost City Renewables, LLC State: Kentucky Sampling Point: DP-C								
Investigator(s): M.Herod, S.Davis	Section, Township, Range: N/A							
	Local relief (concave, convex, none): None Slope (%): 0-2							
	5513 Long: <u>-</u> 86.971744 Datum: NAD83							
· , — , — — — — — — — — — — — — — — — —	slopes, occasionally flooded NWI classification: None							
Are climatic / hydrologic conditions on the site typical for this time								
	cantly disturbed? Are "Normal Circumstances" present? Yes✓ No							
	lly problematic? (If needed, explain any answers in Remarks.)							
	wing sampling point locations, transects, important features, etc.							
1	— within a Wetland? Yes ✓ No							
hydrologic conditions were normal at the til	' '							
HYDROLOGY								
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)							
Primary Indicators (minimum of one is required; check all that a	pply) Surface Soil Cracks (B6)							
	atic Plants (B14) Sparsely Vegetated Concave Surface (B8)							
	Sulfide Odor (C1) Drainage Patterns (B10)							
	Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)							
	of Reduced Iron (C4) Dry-Season Water Table (C2)							
	on Reduction in Tilled Soils (C6) Crayfish Burrows (C8)							
	k Surface (C7) Saturation Visible on Aerial Imagery (C9)							
	plain in Remarks) Stunted or Stressed Plants (D1)							
Iron Deposits (B5)	✓ Geomorphic Position (D2)							
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)							
Water-Stained Leaves (B9)	Microtopographic Relief (D4)							
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)							
Field Observations: Surface Water Present? Yes ✓ No Depth (ir	pohool: 3							
Water Table Present? Yes ✓ No Depth (in								
Saturation Present? Yes No ✓ Depth (in								
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial								
Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspections), ii avaliable.							
Remarks: At least one primary or two secondary indic	cators observed: parameter met							
The second printing of the secondary many	, panamoto mon							

"	Absolute	Dominant I		Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant
3				Species Across All Strata: 1 (B)
4		·		
				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		OBL species 5.00 x 1 = 5.00
50% of total cover: 0.0	20% of	total cover:_	0.0	'
Sapling/Shrub Stratum (Plot size: 15' radius)				0.00
1. No rooted saplings/shrubs present				FAC species $0.00 \times 3 = 0.00$
2				FACU species 0.00 x 4 = 0.00
3				UPL species <u>0.00</u> x 5 = <u>0.00</u>
4				Column Totals: <u>5.00</u> (A) <u>5.00</u> (B)
5		-	-	
				Prevalence Index = B/A = 1.0
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0 ¹
	0	= Total Cove	r	4 - Morphological Adaptations¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:_	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)				·
1. Cardamine pensylvanica	5	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2				
3				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Harb All borbaccous (non woody) plants, regardless
	5.0	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 2.5				
Woody Vine Stratum (Plot size: 30' radius)				Woody vine – All woody vines greater than 3.28 ft in
No rooted vines present				height.
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cove	r	Present? Yes No
50% of total cover: 0.0	20% of	total cover:_	0.0	
Remarks: (Include photo numbers here or on a separate s	heet.)			
Indicator 1 (Rapid Test) present with all	domina	nt snaci	os FΔ(W or ORI : parameter met
Dominance Test and Prevalence Index	calcula	eu ioi 16	ierenc	e purposes orny.

Sampling Point: DP-007

SOIL Sampling Point: DP-007

Profile Desc	ription: (D	escribe 1	to the dep	oth needed	to docui	ment the i	ndicator	or confirm	the abs	sence of indicators.)
Depth		Matrix			Redo	x Features	3			
(inches)	Color (r	noist)	%	Color (r	noist)	%	Type ¹	Loc ²	Textu	ure Remarks
0-6	<u>10YR</u>	5/2	90	7.5YR	5/8	_10_	C	M/PL	SIC	CL
6-12	10YR	5/2	85	7.5YR	5/8	15	С	M	SIC	CL
12-18	10YR	5/2	30	7.5YR	5/8	50	С	М	SIC	CL .
	10YR	2/1	20	_	-				SIC	
		, .								
					-					
¹Type: C=Co	oncentration	n. D=Depl	etion. RM	=Reduced N	Matrix. M	S=Masked	Sand Gr	ains.	² Locatio	on: PL=Pore Lining, M=Matrix.
Hydric Soil			0.0011, 1.001		vication, ivi	<u>o-mached</u>	Cana Cr	unio.		Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)			Dar	k Surface	e (S7)			_	2 cm Muck (A10) (MLRA 147)
	oipedon (A2)					ce (S8) (N	ILRA 147,	148)	Coast Prairie Redox (A16)
	stic (A3)					urface (S9)		47, 148)		(MLRA 147, 148)
	en Sulfide (A					ed Matrix (F2)		-	Piedmont Floodplain Soils (F19)
	d Layers (At	,			leted Ma		·c)			(MLRA 136, 147)
	ıck (A10) (L d Below Dar		e (A11)			Surface (F rk Surface	,		-	Very Shallow Dark Surface (TF12)Other (Explain in Remarks)
	ark Surface		,,,,,			essions (F			=	carer (Explain in Hemanie)
	lucky Miner		.RR N,			iese Mass		LRR N,		
	A 147, 148)				MLRA 13					
	Bleyed Matri	x (S4)				ace (F13) (³ Indicators of hydrophytic vegetation and
	Redox (S5)							(MLRA 14		wetland hydrology must be present,
Restrictive I	Matrix (S6)			Rec	Parent	viateriai (F	21) (MLR	A 127, 147	<u>()</u>	unless disturbed or problematic.
	Layer (II Ob									
Depth (in									Hydric	c Soil Present? Yes No
Remarks:									Tiyana	C SONT Tesent: Tes NO
			` .							

Project/Site: Lost City Solar	City/County: MU	ihlenberg County s	ampling Date: 2024-04-03
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-008
	Section, Townshi	p, Range: N/A	
Landform (hillslope, terrace, etc.): Depression			Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 3		•	
Soil Map Unit Name: Bonnie silt loam, 0 to 2 pe			
Are climatic / hydrologic conditions on the site typical for the			
Are Vegetation, Soil, or Hydrology			_
Are Vegetation, Soil, or Hydrology		(If needed, explain any answers	
SUMMARY OF FINDINGS – Attach site map			
Lhadasahatia Vanatatian Brassanto Van	NIa		
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes ✓	Is the San	npled Area	
Wetland Hydrology Present? Yes ✓	within a v	vetland? Yes <u>√</u>	No
Remarks:		1 (050)	
All parameters met; area is considered	•	` ,	
conducted a due diligence review of the		oitation Tool (APT) and	d determined that
hydrologic conditions were normal at t	ne time of survey.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicator	rs (minimum of two required)
Primary Indicators (minimum of one is required; check al	Il that apply)	Surface Soil Cra	acks (B6)
✓ Surface Water (A1) Tru	ue Aquatic Plants (B14)	Sparsely Veget	ated Concave Surface (B8)
High Water Table (A2) Hy	drogen Sulfide Odor (C1)	Drainage Patter	rns (B10)
Ox	kidized Rhizospheres on Living	Roots (C3) Moss Trim Line	s (B16)
Water Marks (B1) Pro	esence of Reduced Iron (C4)	Dry-Season Wa	ater Table (C2)
Sediment Deposits (B2) Re	ecent Iron Reduction in Tilled S	oils (C6) Crayfish Burrow	vs (C8)
Drift Deposits (B3) Th	nin Muck Surface (C7)	Saturation Visib	ole on Aerial Imagery (C9)
Algal Mat or Crust (B4) Ot	her (Explain in Remarks)	Stunted or Stre	ssed Plants (D1)
Iron Deposits (B5)		✓ Geomorphic Po	osition (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitar	rd (D3)
✓ Water-Stained Leaves (B9)		Microtopograph	nic Relief (D4)
Aquatic Fauna (B13)		✓ FAC-Neutral Te	est (D5)
Field Observations:			
Surface Water Present? Yes _ ✓ No D			
	epth (inches):		,
Saturation Present? Yes No _ ✓ D (includes capillary fringe)	epth (inches):	Wetland Hydrology Present?	Yes No
Describe Recorded Data (stream gauge, monitoring well	, aerial photos, previous inspec	ctions), if available:	
Remarks:			
At least one primary or two secondary	indicators observed	; parameter met.	

	Absolute	Dominant I	ndicator	Dominance Test worksheet:
Tree Stratum (Plot size:30' radius)		Species?		Number of Dominant Species
1. Acer saccharinum	35	Υ	FACW	That Are OBL, FACW, or FAC:3(A)
2. Platanus occidentalis	15	Υ	FACW	
3. Quercus alba	10	N	FACU	Total Number of Dominant Species Across All Strata: 3 (B)
4. Fagus grandifolia	5	N	FACU	Species / No coc / III Strata.
5. Ulmus rubra	5	N	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
6.				That Are OBL, FACW, or FAC: 100.00 (A/B)
7				Prevalence Index worksheet:
	70.0	= Total Cove		Total % Cover of: Multiply by:
50% of total cover: <u>35.0</u>				OBL species <u>5.00</u> x 1 = <u>5.00</u>
Sapling/Shrub Stratum (Plot size: 15' radius)	2070 01	total oover	1 1.0	FACW species 50.00 x 2 = 100.00
1 No rooted saplings/shrubs present				FAC species 5.00 x 3 = 15.00
				FACU species 15.00 x 4 = 60.00
				UPL species $0.00 \times 5 = 0.00$
3				Column Totals: 75.00 (A) 180.00 (B)
4		-		(3)
5				Prevalence Index = $B/A = 2.4$
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0 ¹
		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:_	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)	_	V	ODI	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Carex stricta		<u>Y</u>	OBL	
2				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				The Manda plants analysis a discount (7.0 cm)
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10	_			m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	5.0	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 2.5	20% of	total cover:_	1.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)				height.
1. No rooted vines present				
2				
3				
4.		·		
5.				Hydrophytic Vegetation
	0	= Total Cove	er	Present? Yes <u>√</u> No
50% of total cover:0.0		total cover:_		
Remarks: (Include photo numbers here or on a separate si				
(, ,			

Indicator 1 (Rapid Test) present with all dominant species FACW or OBL; parameter met. Dominance Test and Prevalence Index calculated for reference purposes only.

Sampling Point: DP-008

Sampling Point: DP-008

SOIL

Profile Desc	ription: (D	escribe t	o the dep	th needed	to docun	nent the ir	ndicator	or confirm	the absence	e of indica	tors.)		
Depth		Matrix											
(inches)	Color (r	moist)	%	Color (r	noist)	x Features %	Type ¹	Loc ²	Texture		Rem	arks	
0-10	10YR	5/2	90	10YR	6/8	10	С	M	SICL				
10-18	10YR	5/3	70	10YR	6/8	5	С	M	SICL	·			
10 10	-			10111	0/0			171		· 			
	<u>10YR</u>	5/2	_25_						SICL	· 			
	-												
	-			-			-			·			
	'				_								
1Type: C-C		D-Dool	otion DM		Motrix M		Sand Cr		² Location: [Ol –Doro Li	nina M-M		
¹ Type: C=Ce			etion, Rivi	=Reduced i	viatrix, ivis	s=iviasked	Sand Gra	ains.	² Location: F	ators for l			Soils ³ ·
-				D	l. Cf	(07)						-	Jons .
Histosol		`			k Surface		o (CO) /N	II D A 447		2 cm Muck Coast Prair			
	oipedon (A2)						ILRA 147,	148) ((A16)	
Black Hi	en Sulfide (A	.4)				rface (S9) ed Matrix (F		47, 140)		Piedmont F	47, 148)	Soile (E10	`
	d Layers (A				oleted Mat		۷)		'		36, 147)	30113 (1-13	,
	ıck (A10) (L	,				Surface (F	6)		,	Very Shallo		urface (TE	12)
	d Below Dai		(A11)			k Surface	,			Other (Exp			12)
	ark Surface		(/ ())			ssions (F8			<u> </u>	otrici (Exp	alli ili ixoi	narko)	
	lucky Miner		RR N.			ese Masse		LRR N.					
	A 147, 148)	··· (• ·) (,		MLRA 13		(,					
	Bleyed Matri	x (S4)				ce (F13) (I	MLRA 13	6. 122)	3Inc	dicators of	hvdrophvt	ic vegetati	on and
	Redox (S5)	()						(MLRA 14		etland hyd		_	
	Matrix (S6))						` A 127, 147		nless distu			,
Restrictive I						,	, ,		Ì				
Type:		,											
Depth (in									Hydric Soi	I Present?	Yes	✓ No	.
Remarks:									11,5				
Hydric so	oil indica	tor F3	(Denl	ated Ma	triy) nr	esent.	naram	eter m	Δt				
riyuno se	ii ii idice	iioi i o	(DCpi	stod ivia	uix) pi	Cociii,	paran	ictor iii	Ct.				

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-03
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-009
Investigator(s): M.Herod, S.Davis	Section, Township, Range: N/A
• ., -	Local relief (concave, convex, none): Convex Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.10	5840 Long: -86.972490 Datum: NAD83
· · · · · · · · · · · · · · · · · · ·	t slopes, occasionally flooded NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time	
	icantly disturbed? Are "Normal Circumstances" present? Yes ✓ No
	ally problematic? (If needed, explain any answers in Remarks.)
	wing sampling point locations, transects, important features, etc.
Lhidraphytia Vagetation Present?	,
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No No Hydric Soil Present?	is the Sampled Area
Wetland Hydrology Present? Yes No	√ within a Wetland? Yes No✓
Remarks:	
	ot considered a definitional wetland. The lead delineator
•	ntecedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the til	me of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that a	apply) Surface Soil Cracks (B6)
Surface Water (A1) True Aqu	uatic Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen	n Sulfide Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized	Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence	e of Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iro	ron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
	ck Surface (C7) Saturation Visible on Aerial Imagery (C9)
	xplain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes No _ ✓ Depth (ir	nches).
Water Table Present? Yes No _✓ Depth (ir	· ———
Saturation Present? Yes No ✓ Depth (in	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial	i photos, previous inspections), if available:
Remarks: Indicators of wetland hydrology absent; pa	arameter lacking
Indicators of wetland flydrology absent, par	lameter lacking.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: <u>DP-009</u>
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3	-			Species Across All Strata:1 (B)
4	-			Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		OBL species 2.00 x 1 = 2.00
50% of total cover: 0.0	20% of	total cover:_	0.0	FACW species $0.00 \times 2 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				FAC species 5.00 x 3 = 15.00
				FACU species 0.00 x 4 = 0.00
2	•			UPL species $84.00 \times 5 = 420.00$
3				Column Totals: 91.00 (A) 437.00 (B)
4				Column Totals: <u>91.00</u> (A) <u>437.00</u> (B)
5				Prevalence Index = B/A = 4.8
6	-	-		Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9	-			3 - Prevalence Index is ≤3.0 ¹
		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:0.0	20% of	total cover:_	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)				Problematic Hydrophytic Vegetation (Explain)
1. Stellaria media	80	<u> </u>	UPL	1 Toblematic Hydrophytic Vegetation (Explain)
2. Ranunculus sardous	5	N	FAC	Indicators of hydric soil and watland hydrology must
3. Lamium amplexicaule	2	<u>N</u>	UPL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Lamium purpureum	2	N	UPL	Definitions of Four Vegetation Strata:
_{5.} Packera glabella	2	N	OBL	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7	-			height.
8				One the wife to the state of th
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Herb – All herbaceous (non-woody) plants, regardless
	91.0	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>45.5</u>				Was devices All was devices are startly as 2 00 ft in
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				The same of the sa
2				
3				
4				
5				Hydrophytic Vegetation
	_	= Total Cove	er	Present? Yes No
50% of total cover: 0.0				
Remarks: (Include photo numbers here or on a separate s				<u> </u>
Indicators of hydrophytic vegetation abs		rameter	lacking] .
	-			

Sampling Point: DP-009

SOIL

Profile Desc	ription: (Describe	to the depti	h needed to docun	nent the i	ndicator (or confirm	the absence	e of indicat	ors.)		
Depth	Matrix		Redox	K Feature:	S						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	ks	
0-4	10YR 3/4	100					SIL				
				•	-						
4-18	10YR 4/3	100					SICL				
								-			
-											
¹ Type: C=Co	oncentration, D=Depl	letion. RM=l	Reduced Matrix. MS	=Masked	Sand Gra	ains.	² Location: I	PL=Pore Lir	ning. M=Mat	rix.	
Hydric Soil I			, , , , , , , , , , , , , , , , , , , ,						roblematic		oils³:
Histosol			Dark Surface	(97)					(A10) (MLR	-	
	oipedon (A2)		Polyvalue Be		oo (SS) /M	II D A 147			e Redox (A		
							140)			10)	
Black Hi			Thin Dark Su			47, 148)		(MLRA 1		"I- ([40)	
	n Sulfide (A4)		Loamy Gleye		F2)				loodplain So	DIIS (F19)	
	Layers (A5)		Depleted Mat					(MLRA 1		(== . 0)	
	ck (A10) (LRR N)	(* (*)	Redox Dark S						w Dark Surf)
	Below Dark Surface	e (A11)	Depleted Dar					Other (Expl	ain in Rema	rks)	
	ark Surface (A12)		Redox Depre								
	lucky Mineral (S1) (L	.RR N,	Iron-Mangane		es (F12) (I	₋RR N,					
	147, 148)		MLRA 130	•							
	leyed Matrix (S4)		Umbric Surfa						nydrophytic	-	
	edox (S5)		Piedmont Flo					etland hydr	ology must	be present	,
Stripped	Matrix (S6)		Red Parent M	laterial (F	21) (MLR	A 127, 147) u	nless distur	bed or prob	ematic.	
Restrictive I	ayer (if observed):										
Type:											
	ches):						Hydric So	il Present?	Yes	No	1
							Tiyano oo				
Remarks:	il indicators o	haant: n	oromotor loo	cin a							
пушто вс	oil indicators a	oseni, p	arameter lac	kirig.							

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04						
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-010						
Investigator(s): M.Herod, S. Davis							
	ocal relief (concave, convex, none): Concave Slope (%): 0-2						
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.09480	D2 Long: -86.986694 Datum: NAD83						
Soil Map Unit Name: Frondorf-Lenberg complex, 20 to	o 30 percent slopes NWI classification: None						
Are climatic / hydrologic conditions on the site typical for this time of y	/ear? Yes ✓ No (If no, explain in Remarks.)						
Are Vegetation, Soil, or Hydrology significantl							
Are Vegetation, Soil, or Hydrology naturally p							
	g sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No	within a wetiand: Tes V 140						
Wetland Hydrology Present? Yes ✓ No Remarks:	-						
All parameters met; area is considered a palu	strine emergent (PEM) wetland. The lead delineator cedent Precipitation Tool (APT) and determined that of survey.						
HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply							
✓ Surface Water (A1) True Aquatic							
High Water Table (A2) Hydrogen Sul							
	cospheres on Living Roots (C3) Moss Trim Lines (B16)						
Water Marks (B1) Presence of F							
	eduction in Tilled Soils (C6) Crayfish Burrows (C8)						
Drift Deposits (B3) Thin Muck Su							
Algal Mat or Crust (B4) Other (Explain							
Iron Deposits (B5)	✓ Geomorphic Position (D2)						
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)						
Water-Stained Leaves (B9)	Microtopographic Relief (D4)						
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)						
Field Observations:	. 1						
Surface Water Present? Yes ✓ No Depth (inche	· 						
Water Table Present? Yes No ✓ _ Depth (inche							
Saturation Present? Yes No _ ✓ Depth (inche (includes capillary fringe)	s): Wetland Hydrology Present? Yes No						
Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspections), if available:						
Remarks:							
At least one primary or two secondary indicate	ors observed; parameter met.						

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-010
	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius) 1. No rooted trees present	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
6				That Are OBE, I ACW, OF I AC. 100.00 (A/B)
7				Prevalence Index worksheet:
·- <u></u>	0	= Total Cov		Total % Cover of: Multiply by:
50% of total cover:0.0				OBL species x 1 = 7.00
Sapling/Shrub Stratum (Plot size: 15' radius)		1010. 0010		FACW species0.00 x 2 =0.00
No rooted sanling/shruh present				FAC species 0.00 x 3 = 0.00
				FACU species 0.00 x 4 = 0.00
2				UPL species $0.00 \times 5 = 0.00$
3				7.00
4				Column Totals:
5				Prevalence Index = B/A = 1.0
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50%
9				
	0 :	= Total Cov	er	✓ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0	20% of	total cover:	0.0	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)	_			data in Remarks or on a separate sheet)
1. Packera glabella	5	Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Carex stricta	2	Y	OBL	
				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	7.0	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 3.5				Was deaders Allows deaders and a constant has a confine
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				Holghe.
2				
3				
4				
				Hydrophytic
5		= Total Cov		Vegetation Present? Yes ✓ No ———
FOO/ of total across 0.0				
50% of total cover: 0.0		total cover.	0.0	
Remarks: (Include photo numbers here or on a separate sl	neet.)			
Indicator 1 (Rapid Test) present with all Dominance Test and Prevalence Index		•		• •

Sampling Point: DP-010

SOIL

Profile Desc	cription: (D	escribe t	o the dep	th needed	to docun	nent the i	ndicator	or confirm	the absen	ce of indicat	ors.)	
Depth		Matrix				x Features					·	
(inches)	Color (ı		%	Color (r		<u>%</u>	_Type ¹	Loc ²	Texture		Rema	arks
0-5	10YR	5/2	20	10YR	5/8	80	С	M/PL	SICL			
5-9	10YR	2/1	15	10YR	5/8	80	С	M	SICL			
	10YR	5/2	5	10111	0, 0				SICL			
9-12		2/1	20	10YR	5/8	75		M	SICL			
9-12	10YR			IUIK	5/6	_/3_	C	IVI				
	<u>10YR</u>	5/2	5						SICL			
										_		
¹Type: C=C	oncontration	D-Donl	otion DM		Motrix M		Sand Cr		² L coation:	PL=Pore Lir	ina M-M	otriv
Hydric Soil			ellon, Rivi	=Reduced i	viatrix, ivič	s=iviaskeu	Sand Gr	airis.				ic Hydric Soils ³ :
Histosol				Dor	k Surface	(87)			1110	2 cm Muck		•
	pipedon (A2	1				. ,	e (S8) (N	ILRA 147,	148)	Coast Prairi		
	istic (A3)	•)				rface (S9)				(MLRA 1		(10)
	en Sulfide (<i>A</i>	(4)				d Matrix (I		,,		Piedmont F		Soils (F19)
	d Layers (A				oleted Mat		,			(MLRA 1		
	uck (A10) (L					Surface (F	6)					rface (TF12)
	d Below Da		(A11)			k Surface				Other (Expl	ain in Rem	arks)
Thick Da	ark Surface	(A12)		Red	dox Depre	ssions (F8	3)					
	/lucky Miner		RR N,	Iron	ı-Mangan	ese Masse	es (F12) (LRR N,				
	A 147, 148)				MLRA 13	•						
	Sleyed Matri	x (S4)				ce (F13) (c vegetation and
							(=)	/BILD A 4 44	- 1	watland budr		
Sandy F	Redox (S5)				dmont Flo					welland nyul	ology mus	t be present,
Stripped	Matrix (S6)							(MLRA 148 A 127, 147		unless distur		
Stripped	Matrix (S6)											
Stripped Restrictive I Type: Be	Matrix (S6) Layer (if obe											
Stripped Restrictive I Type: Be	Matrix (S6))		ped or pro	
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):		Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Stripped Restrictive Type: B6 Depth (in	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.
Restrictive Type: Be Depth (inc	Matrix (S6) Layer (if observed) edrock ches): 12	served):	(Redo	Red	d Parent N	Material (F	21) (MLR	A 127, 147	Hydric S	unless distur	ped or pro	blematic.

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04					
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-011					
	Section, Township, Range: N/A					
Landform (hillslope, terrace, etc.): Sideslope Lo	ocal relief (concave, convex, none): Convex Slope (%): 3-7					
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.09489	0 Long: -86.986876 Datum: NAD83					
,	30 percent slopes NWI classification:					
Are climatic / hydrologic conditions on the site typical for this time of y						
Are Vegetation, Soil, or Hydrology significantly						
Are Vegetation, Soil, or Hydrology naturally pr						
	g sampling point locations, transects, important features, etc.					
,						
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No _✓	Is the Sampled Area					
Wetland Hydrology Present? Yes No_ ✓	within a Wetland? Yes No					
Remarks:	·					
,	considered a definitional wetland. The lead delineator					
_	cedent Precipitation Tool (APT) and determined that					
hydrologic conditions were normal at the time	of survey.					
HYDROLOGY	Occasional delivers delivers and the constitution of the constitut					
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)						
Surface Water (A1) True Aquatic F						
High Water Table (A2) Hydrogen Sulf						
	ospheres on Living Roots (C3) Moss Trim Lines (B16)					
Water Marks (B1) Presence of R	educed Iron (C4) Dry-Season Water Table (C2) eduction in Tilled Soils (C6) Crayfish Burrows (C8)					
Sediment Deposits (B2) Recent Iron R Thin Muck Sui						
Algal Mat or Crust (B4) Other (Explain						
Iron Deposits (B5)	Geomorphic Position (D2)					
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)					
Water-Stained Leaves (B9)	Microtopographic Relief (D4)					
Aquatic Fauna (B13)	FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No _ ✓ Depth (inches	s):					
Water Table Present? Yes No ✓ Depth (inches	· ———					
Saturation Present? Yes No ✓ Depth (inches						
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photostration of the control of the	os previous inspections) if available:					
Describe Necorded Data (Stream gauge, monitoring won, acriai prior	os, previous inspections), ii avaliable.					
Remarks:	notor lacking					
Indicators of wetland hydrology absent; param	ieter lacking.					

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-011
	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	<u>Status</u>	Number of Dominant Species
1. No rooted trees present	-			That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3	-			Species Across All Strata:1 (B)
4	-			Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6	-			Prevalence Index worksheet:
7		Tatal Caus		Total % Cover of: Multiply by:
50% of total cover: <u>0.0</u>		= Total Cover		OBL species 0.00 x 1 = 0.00
Sapling/Shrub Stratum (Plot size: 15' radius)	20 /0 01	total cover.	0.0	FACW species 0.00 x 2 = 0.00
4. No rooted earlings/shrubs present				FAC species 0.00 x 3 = 0.00
				FACU species 0.00 x 4 = 0.00
				UPL species 95.00 x 5 = 475.00
3				Column Totals: 95.00 (A) 475.00 (B)
4 5.				
·				Prevalence Index = B/A = 5.0
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9		= Total Cove		3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)	2070 01	total oover.	0.0	data in Remarks or on a separate sheet)
1. Stellaria media	95	Υ	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must
3	-			be present, unless disturbed or problematic.
5.				Definitions of Four Vegetation Strata:
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
1				height.
8				Sapling/Shrub - Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				111) (411.
11	05.0			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:47.5		= Total Cover		of size, and woody plants less than 3.20 it tall.
Woody Vine Stratum (Plot size: 30' radius)	2070 01	total cover.	10.0	Woody vine – All woody vines greater than 3.28 ft in
1. No rooted vines present				height.
2				
		· · · · · · · · · · · · · · · · · · ·		
4				Hydrophytic
5	_			Vegetation Present? Yes No _ ✓
50% of total cover: <u>0.0</u>		= Total Cover:		
		total cover.	0.0	
Remarks: (Include photo numbers here or on a separate s Indicators of hydrophytic vegetation abs		rameter	lacking	1
maloators of rigarophytic vegetation ass	orit, pa	iamotoi	iaoitii į	j·

Sampling Point: DP-011

SOIL

	ription: (E		to the depth	n needed to document the indicator or confir	rm the ab	sence of indicat	ors.)	
Depth (inches)	Color (Matrix moist)	%	Redox Features Color (moist)	- Text	ure	Remarks	S
0-6	10YR	4/4	100		SI			
6-18	10YR	5/6	100		SI			
0 10	10111	0,0	100			<u> </u>		
	-		· ——— -					
	-							
	-		·		_			
			·					
	-		·					
Type: C=Co	oncentration	n, D=Dep	letion, RM=F	Reduced Matrix, MS=Masked Sand Grains.	² Locati	ion: PL=Pore Lin	ning, M=Matri	х.
Hydric Soil			,	,		Indicators for P		
Histosol	(A1)			Dark Surface (S7)		2 cm Muck ((A10) (MLRA	147)
	oipedon (A2	<u>?</u>)		Polyvalue Below Surface (S8) (MLRA 14	7, 148)	Coast Prairi		
Black Hi	stic (A3)			Thin Dark Surface (S9) (MLRA 147, 148))	(MLRA 14	47, 148)	
	en Sulfide (A			Loamy Gleyed Matrix (F2)			loodplain Soil	ls (F19)
	d Layers (A			Depleted Matrix (F3)		(MLRA 1		
	ick (A10) (L		o (A11)	Redox Dark Surface (F6)			w Dark Surfa	
	d Below Da ark Surface		e (ATT)	Depleted Dark Surface (F7)Redox Depressions (F8)		Other (Expla	ain in Remarl	KS)
	lucky Mine		RR N.	Iron-Manganese Masses (F12) (LRR N,				
	A 147, 148)			MLRA 136)				
	Bleyed Matr			Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of h	nydrophytic v	egetation and
	Redox (S5)	, ,		Piedmont Floodplain Soils (F19) (MLRA	148)	wetland hydro		
	Matrix (S6			Red Parent Material (F21) (MLRA 127, 1	47)	unless disturb	ped or proble	matic.
Restrictive I	Layer (if ob	served):						
Туре:				<u> </u>				
Depth (inc	ches):			<u> </u>	Hydri	ic Soil Present?	Yes	No <u>√</u> _
Remarks:					•			
Hydric so	oil indica	ators a	bsent; p	arameter lacking.				

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04						
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-012						
	Section, Township, Range: N/A						
	ocal relief (concave, convex, none): Convex Slope (%): 3-7						
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.09881	3 Long: -86.989569 Datum: NAD83						
Soil Map Unit Name: Frondorf-Lenberg complex, 20 to							
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes No (If no, explain in Remarks.)						
Are Vegetation, Soil, or Hydrology significantl	,						
Are Vegetation, Soil, or Hydrology naturally p							
	g sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No_ ✓							
Hydric Soil Present? Yes No_ ✓	Is the Sampled Area						
Wetland Hydrology Present? Yes No_ ✓	within a Wetland? Yes No						
Remarks:							
,	considered a definitional wetland. The lead delineator						
conducted a due diligence review of the Antec	cedent Precipitation Tool (APT) and determined that						
hydrologic conditions were normal at the time	of survey.						
LIVERGLOOV							
HYDROLOGY	Constitution to the disease of the second to						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply)							
Surface Water (A1) True Aquatic I							
High Water Table (A2) Seturation (A2) Printing (A2) Oviding Rhiz							
Saturation (A3) Oxidized Rhiz Water Marks (B1) Presence of R							
	eduction in Tilled Soils (C6) Crayfish Burrows (C8)						
Drift Deposits (B3) Thin Muck Su							
Algal Mat or Crust (B4) Other (Explain							
Iron Deposits (B5)	Geomorphic Position (D2)						
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)						
Water-Stained Leaves (B9)	Microtopographic Relief (D4)						
Aquatic Fauna (B13)	FAC-Neutral Test (D5)						
Field Observations:							
Surface Water Present? Yes No ✓ Depth (inche	s):						
Water Table Present? Yes No✓ Depth (inche	s):						
Saturation Present? Yes No ✓ Depth (inche	s): Wetland Hydrology Present? Yes No						
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspections), if available:						
Remarks: Indicators of wetland hydrology absent; paran	neter lacking						
maioatoro or wottaria riyarology abcortt, param	Total lacking.						

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-012
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. Quercus alba	20	<u>Y</u>	FACU	That Are OBL, FACW, or FAC:0 (A)
2. Quercus montana	15	Υ	UPL	
3. Fagus grandifolia	10	Y	FACU	Total Number of Dominant Species Across All Strata: 3 (B)
4. Amelanchier arborea	5	N	FAC	Opedies Across All otrata.
_			.,	Percent of Dominant Species
				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7	=	·		Total % Cover of: Multiply by:
		= Total Cov		OBL species $0.00 \times 1 = 0.00$
50% of total cover: <u>25.0</u>	20% of	total cover:	10.0	
Sapling/Shrub Stratum (Plot size: 15' radius)				= 00 4= 00
1. No rooted saplings/shrubs present				FAC species $5.00 \times 3 = 15.00$
2				FACU species 30.00 x 4 = 120.00
3				UPL species15.00 x 5 =75.00
4				Column Totals: <u>50.00</u> (A) <u>210.00</u> (B)
5				Decombrage Index: D/A 4.2
6				Prevalence Index = $B/A = 4.2$
7				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
500/ -11-1-1 0.0		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% 01	total cover:	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. No rooted herbs present				
2				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				John Marie Co. F. Car. 10 gotamon Caratan
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				noight.
9.				Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10		·		m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
500/ (1.1.)		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 0.0	20% of	total cover:	0.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)				height.
1. No rooted vines present				
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cov	er	Present? Yes No✓
50% of total cover: 0.0	20% of	total cover:	0.0	
Remarks: (Include photo numbers here or on a separate sh				
Indicators of hydrophytic vegetation abs	ent; pa	rameter	lacking) .

	ription: (D	escribe t	o the dep	oth needed	to docun	nent the i	ndicator (or confirn	the absence	of indicate	ors.)							
Depth		Matrix			Redox	x Features	3											
(inches)	Color (r	moist)	%	Color (n	noist)	<u>%</u>	Type ¹	Loc ²	Texture		Remark	KS						
0-3	10YR	5/3	100						SIC									
3-7	10YR	5/4	100						SIC									
7-13	10YR	2/2	30		_				SIC									
	10YR	5/3	15						SIC									
	10YR	5/4	55						SIC									
12 10	10YR	2/2	10	7.5YR	5/8	10		N.4	SIC									
13-18				1.51K	3/6	10	<u> </u>	M										
	<u>10YR</u>	5/3	80						SIC									
l																		
¹ Type: C=Co	oncentration	n, D=Depl	etion, RM	=Reduced N	/latrix, MS	S=Masked	Sand Gra	ins.	² Location: P									
Hydric Soil I	ndicators:								Indica	ators for Pr	oblematic	Hydric Soils	³ :					
Histosol	(A1)			Darl	c Surface	(S7)			2	cm Muck (A	410) (MLR	A 147)						
Histic Ep	ipedon (A2	2)				low Surfac	. , .		148) 0	Coast Prairie	Redox (A1	16)						
Black Hi						rface (S9)		47, 148)		(MLRA 14								
	n Sulfide (A					d Matrix (I	F2)		P	Piedmont Flo		oils (F19)						
	Layers (A				leted Mat					(MLRA 13								
	ck (A10) (L		(0.4.4)			Surface (F				ery Shallow								
	l Below Dai irk Surface		(A11)			k Surface ssions (F8				Other (Expla	ın ın Kema	iks)						
	lucky Miner		RR N			ese Masse		RR N.										
	147, 148)		1414 14,		ILRA 13) (1 12) (1	-1414 14,										
	leyed Matri					ce (F13) (MLRA 13	6. 122)	³ Ind	licators of h	vdrophytic	vegetation an	d					
	edox (S5)	(-)				odplain S				etland hydro		-						
	Matrix (S6))				/laterial (F				less disturb								
Restrictive I	ayer (if ob	served):																
Type:																		
Donth (in	··· ———								Hydric Soil	Present?	Yes	No <u></u>	_					
pepin (inc	cnes):																	
Remarks:	nes):									Remarks: Hydric soil indicators absent; parameter lacking.								
Remarks:		ators a	osent;	parame	ter lac	king.			<u> </u>									
Remarks:		ators a	bsent;	parame	ter lac	king.												
Remarks:		ators a	osent;	parame	ter lac	king.												
Remarks:		ators al	osent;	parame [.]	ter lac	king.			1									
Remarks:		ators a	osent;	parame	ter lac	king.												
Remarks:		ators a	osent;	parame [.]	ter lac	king.												
Remarks:		ators a	osent;	parame [.]	ter lac	king.												
Remarks:		ntors a	osent;	parame [.]	ter lac	king.												
Remarks:		ators a	osent;	parame	ter lac	king.												
Remarks:		ators a	osent;	parame [.]	ter lac	king.												
Remarks:		ators a	osent;	parame [.]	ter lac	king.												
Remarks:		ators a	bsent;	parame [.]	ter lac	king.												
Remarks:		ators a	bsent;	parame [.]	ter lac	king.												
Remarks:		ators a	osent;	parame [,]	ter lac	king.												
Remarks:		ators a	osent;	parame [.]	ter lac	king.												
Remarks:		ators a	osent;	parame [.]	ter lac	king.												
Remarks:		ators a	bsent;	parame [.]	ter lac	king.												
Remarks:		ators a	bsent;	parame [,]	ter lac	king.												
Remarks:		ators a	osent;	parame [,]	ter lac	king.												
Remarks:		ators a	osent;	parame	ter lac	king.												
Remarks:		ators a	bsent;	parame	ter lac	king.												
Remarks:		ators a	bsent;	parame	ter lac	king.												

Project/Site: Lost City Solar	City/County: Mul	nlenberg County Sa	ampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-013
	Section, Township		. 0
Landform (hillslope, terrace, etc.): Sideslope			Slope (%): 3-7
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat:	37.096732	Long: <u>-86.993458</u>	Datum: NAD83
Soil Map Unit Name: Sadler silt loam, 2 to 6	percent slopes	NWI classification	on: None
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes 1	No (If no, explain in Rem	narks.)
Are Vegetation, Soil, or Hydrology		Are "Normal Circumstances" pres	
Are Vegetation, Soil, or Hydrology	-	(If needed, explain any answers i	
SUMMARY OF FINDINGS – Attach site ma			
Hydrophytic Vegetation Present? Yes	No. /		
Hydric Soil Present? Yes	No. /		No. /
Wetland Hydrology Present? Yes	WILLIII a VV	etland? Yes	No
Remarks:	I I		
One or more parameters lacking; are			
conducted a due diligence review of	•	itation Tool (APT) and	determined that
hydrologic conditions were normal at	the time of survey.		
HYDROLOGY			
Wetland Hydrology Indicators:		·	rs (minimum of two required)
Primary Indicators (minimum of one is required; check		Surface Soil Cra	
	True Aquatic Plants (B14)		ated Concave Surface (B8)
	Hydrogen Sulfide Odor (C1)	Drainage Patter	
	Oxidized Rhizospheres on Living I		
	Presence of Reduced Iron (C4)	Dry-Season Wa	
	Recent Iron Reduction in Tilled So		
	Thin Muck Surface (C7) Other (Explain in Remarks)		ole on Aerial Imagery (C9) ssed Plants (D1)
Iron Deposits (B5)	other (Explain in Nemarks)	Geomorphic Po	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitar	
Water-Stained Leaves (B9)		Microtopograph	
Aquatic Fauna (B13)		FAC-Neutral Te	
Field Observations:			
Surface Water Present? Yes No _✓	Depth (inches):		
Water Table Present? Yes No _✓	Depth (inches):		
_	Depth (inches):	Wetland Hydrology Present?	Yes No✓
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring w	ell perial photos, previous inspec	tions) if available:	
Describe Necorded Data (stream gauge, monitoring w	sii, aeriai priotos, previous irispeci	ions), ii avallable.	
Remarks:	ent: parameter lacking		
Indicators of wetland hydrology abse	nt, parameter lacking.		
1			

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-013
	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	<u>Status</u>	Number of Dominant Species
1. No rooted trees present	-			That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3	-			Species Across All Strata:1 (B)
4	-			Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6	-			Prevalence Index worksheet:
7		Tatal Caus		Total % Cover of: Multiply by:
50% of total cover: <u>0.0</u>		= Total Cover		OBL species 0.00 x 1 = 0.00
Sapling/Shrub Stratum (Plot size: 15' radius)	20 /0 01	total cover.	0.0	FACW species 0.00 x 2 = 0.00
4 No rooted earlings/shrubs present				FAC species 0.00 x 3 = 0.00
				FACU species 0.00 x 4 = 0.00
				UPL species 95.00 x 5 = 475.00
				Column Totals: 95.00 (A) 475.00 (B)
4 5.				
·				Prevalence Index = B/A = 5.0
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9		= Total Cove		3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)	2070 01	total oover.	0.0	data in Remarks or on a separate sheet)
1. Stellaria media	95	Υ	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must
3	-			be present, unless disturbed or problematic.
5.	-			Definitions of Four Vegetation Strata:
· ·				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
8.				height.
· ·				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				m) tall.
11	95.0	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:47.5				of size, and woody plants less than 5.20 it tall.
Woody Vine Stratum (Plot size: 30' radius)			10.0	Woody vine – All woody vines greater than 3.28 ft in
1. No rooted vines present				height.
2.				
3		· · · · · · · · · · · · · · · · · · ·		
4 5.				Hydrophytic
5	_			Vegetation Present? Yes No _ ✓
50% of total cover:0.0		= Total Cover		
Remarks: (Include photo numbers here or on a separate s		total cover.	0.0	
Indicators of hydrophytic vegetation abs		rameter	lacking	1.
aea.e.e e, a. ep, a.e regetamen alee	, , , , , , , , , , , , , , , , , , ,			5 .

Profile Desc	ription: (Describe	to the depti	needed to docum	nent the i	ndicator o	or confirm	the absence	of indicate	ors.)		
Depth	Matrix		Redo	k Features	3						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarl	KS	
0-6	10YR 4/4	100					SIC				
								-			
6-18	10YR 5/6	100					SIC				
			_					-			-
			_								
								-			
								-			
¹Type: C=Co	oncentration, D=Depl	etion. RM=I	Reduced Matrix. MS	S=Masked	Sand Gra	ins.	² Location: F	L=Pore Lin	ing. M=Mat	rix.	
Hydric Soil I			,					ators for P			oils³:
Histosol			Dark Surface	(97)				cm Muck (-	
	oipedon (A2)		Polyvalue Be		oo (CO) /M	I D A 147		Coast Prairie			
							140) (10)	
Black His			Thin Dark Su			47, 148)	-	(MLRA 14		''- (540)	
	n Sulfide (A4)		Loamy Gleye		F2)		r	Piedmont Fl)IIS (F19)	
	Layers (A5)		Depleted Mat		(0)		,	(MLRA 13		(TE 40)	
	ck (A10) (LRR N)	(4.4.4)	Redox Dark S					ery Shallov)
	Below Dark Surface	e (A11)	Depleted Dar				_ (Other (Expla	ıın ın Rema	rks)	
	ark Surface (A12)		Redox Depre								
	lucky Mineral (S1) (L	.RR N,	Iron-Mangan		es (F12) (I	RR N,					
	147, 148)		MLRA 13	•			3.				
	leyed Matrix (S4)		Umbric Surfa					licators of h		-	
	edox (S5)		Piedmont Flo					etland hydro			,
	Matrix (S6)		Red Parent N	1aterial (F	21) (MLR	A 127, 147) ur	less disturb	ed or probl	ematic.	
Restrictive L	ayer (if observed):										
Type:											
Depth (inc	ches):						Hydric Soi	Present?	Yes	No	✓
Remarks:							,				
	oil indicators a	hsent: n	arameter lac	kina							
riyano se	ii ii aloatois a	Docini, p	arameter lac	Milg.							

Project/Site: Lost City Solar	City/County: Mul	hlenberg County s	ampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-014
Investigator(s): M.Herod, S.Davis	Section, Township	, Range: N/A	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave,	convex, none): None	Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat:	37.094821	Long: -86.991785	Datum: NAD83
Soil Map Unit Name: Sharon silt loam, 0 to 2 p	ercent slopes, occasion	ally flooded NWI classification	on: None
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes 1	No (If no, explain in Rem	narks.)
Are Vegetation, Soil, or Hydrology			_
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site ma			
Hydrophytic Vegetation Present? Yes	No. /		
Hydric Soil Present? Yes	No. /		/
Wetland Hydrology Present? Yes		etland? Yes	No
Remarks:	l l		
One or more parameters lacking; are			
conducted a due diligence review of	•	itation Tool (APT) and	determined that
hydrologic conditions were normal at	the time of survey.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicator	s (minimum of two required)
Primary Indicators (minimum of one is required; check	all that apply)	Surface Soil Cra	acks (B6)
Surface Water (A1)	Γrue Aquatic Plants (B14)		ated Concave Surface (B8)
	Hydrogen Sulfide Odor (C1)	Drainage Patter	
	Oxidized Rhizospheres on Living I		
Water Marks (B1)	Presence of Reduced Iron (C4)	Dry-Season Wa	ater Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Sc	oils (C6) Crayfish Burrow	vs (C8)
Drift Deposits (B3)	Thin Muck Surface (C7)	Saturation Visib	ole on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Stunted or Stres	ssed Plants (D1)
Iron Deposits (B5)		✓ Geomorphic Po	sition (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitar	rd (D3)
Water-Stained Leaves (B9)		Microtopograph	ic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Te	est (D5)
Field Observations:			
	Depth (inches):		
	Depth (inches):		,
Saturation Present? Yes No _✓_ (includes capillary fringe)	Depth (inches):	Wetland Hydrology Present?	Yes No <u>√</u>
Describe Recorded Data (stream gauge, monitoring we	ادعال, aerial photos, previous inspec	tions), if available:	
Remarks:			
No primary and only one secondary i	ndicator of wetland hy	drology present: parai	meter lacking
The primary and only one occordary i	maioator or wottaria riy	arology procent, paral	motor lacturig.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-014
· · · · · · · · · · · · · · · · · · ·	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. Acer saccharum	35	Y	FACU	That Are OBL, FACW, or FAC: 0 (A)
2. Acer rubrum	5	Ν	FAC	
3				Total Number of Dominant Species Across All Strata: 4 (B)
				Species Across All Strata (b)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				
	40.0	= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover: <u>20.0</u>	20% of	total cover:	8.0	OBL species 0.00 x 1 = 0.00
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species $0.00 \times 2 = 0.00$
1. No rooted saplings/shrubs present				FAC species <u>5.00</u> x 3 = <u>15.00</u>
2				FACU species <u>45.00</u> x 4 = <u>180.00</u>
3				UPL species <u>5.00</u> x 5 = <u>25.00</u>
				Column Totals: <u>55.00</u> (A) <u>220.00</u> (B)
4				、 , 、 ,
5				Prevalence Index = $B/A = 4.0$
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
	0	= Total Cov	er	
50% of total cover:0.0	20% of	total cover:	0.0	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)				data in Remarks or on a separate sheet)
Cardamine concatenata	5	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Stellaria media	5	Y	UPL	
o Allium Vincolo		Y	FACU	¹ Indicators of hydric soil and wetland hydrology must
		·		be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5		·		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				
	15.0	= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:				of olds, and woody planto look than olds it tall.
Woody Vine Stratum (Plot size:30' radius)	2070 0.	10101 00101.	0.0	Woody vine – All woody vines greater than 3.28 ft in
1 No rooted vines present				height.
		·		
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cov	er	Present? Yes No✓
50% of total cover:0.0	20% of	total cover:	0.0	
Remarks: (Include photo numbers here or on a separate sl	neet.)			
Indicators of hydrophytic vegetation abs		rameter	lacking].
, , , ,				

Profile Desc	ription: (Describe	to the depth	needed to docur	nent the i	ndicator	or confirm	the absence	e of indicat	tors.)		
Depth	Matrix		Redo	x Features	s						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	_	Remar	ks	
0-18	10YR 4/3	100					SIC				
								_			
		·					-	_			
					-		-				-
								_			
	-	·									
								_			
		· — –			-		-				
					-			_			
¹ Type: C=Co	oncentration, D=Dep	letion, RM=R	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lir	ning, M=Mat	rix.	
Hydric Soil								cators for F			oils³:
Histosol			Dark Surface	(S7)				2 cm Muck		-	
	pipedon (A2)		Polyvalue Be		ce (S8) (N	II RA 147		Coast Prairi			
Black Hi			Thin Dark Su				140)	(MLRA 1		10)	
	n Sulfide (A4)		Loamy Gleye	, ,	•	47, 140)		Piedmont F		oile (E10)	
	Layers (A5)		Depleted Ma		[2]			(MLRA 1		JIIS (1-19)	
					-6)			Very Shallo		(TE10	`
	ick (A10) (LRR N)	~ (^44)	Redox Dark S					Other (Expl)
	d Below Dark Surface	e (ATT)	Depleted Dar				_	Other (Expi	am in Kema	irks)	
	ark Surface (A12)	DD N	Redox Depre			DD N					
	lucky Mineral (S1) (L	.KK N,	Iron-Mangan		es (F12) (LRK N,					
	147, 148)		MLRA 13	-			3.				
	lleyed Matrix (S4)		Umbric Surfa					ndicators of I		-	
	edox (S5)		Piedmont Flo					vetland hydr			,
	Matrix (S6)		Red Parent N	laterial (F	21) (MLR	A 127, 147	') u	ınless distur	bed or prob	lematic.	
Restrictive I	ayer (if observed):										
Type:											
Depth (inc	ches):						Hydric So	il Present?	Yes	No	✓
Remarks:							1,				
	oil indicators a	hsent n	arameter lac	kina							
riyano se	ni indicators a	baciit, pe	arameter lac	Kirig.							

Project/Site: Lost City Solar	City/County: Muh	nlenberg County Sa	ampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-015
Investigator(s): S.Davis, M.Herod	Section, Township,	Range: N/A	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave,	convex, none): None	Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37			Datum: NAD83
Soil Map Unit Name: Sharon silt loam, 0 to 2 per	cent slopes, occasiona	=	
Are climatic / hydrologic conditions on the site typical for thi	s time of year? Yes N	lo (If no, explain in Rema	arks.)
Are Vegetation, Soil, or Hydrologys			_
Are Vegetation, Soil, or Hydrologyı			
SUMMARY OF FINDINGS – Attach site map			
Hydrophytic Vegetation Present? Yes N	lo ./		
Hydric Soil Present? Yes N	is the Samp		/
Wetland Hydrology Present? Yes N		etland? Yes	No <u>▼</u>
Remarks:			
One or more parameters lacking; area			
conducted a due diligence review of the	•	tation Tool (APT) and	determined that
hydrologic conditions were normal at th	ie time of survey.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators	s (minimum of two required)
Primary Indicators (minimum of one is required; check all	that apply)	Surface Soil Cra	icks (B6)
Surface Water (A1) True	e Aquatic Plants (B14)		ated Concave Surface (B8)
	Irogen Sulfide Odor (C1)	Drainage Patterr	
	dized Rhizospheres on Living R		
	sence of Reduced Iron (C4)	Dry-Season Wat	
Sediment Deposits (B2) Rec	cent Iron Reduction in Tilled Soi	ils (C6) Crayfish Burrow	s (C8)
Drift Deposits (B3) Thir	n Muck Surface (C7)	Saturation Visibl	e on Aerial Imagery (C9)
Algal Mat or Crust (B4) Oth	er (Explain in Remarks)	Stunted or Stres	sed Plants (D1)
Iron Deposits (B5)		✓ Geomorphic Pos	sition (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitare	d (D3)
Water-Stained Leaves (B9)		Microtopographi	c Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Tes	st (D5)
Field Observations:			
Surface Water Present? Yes No ✓ _ De			
Water Table Present? Yes No _✓ De			
Saturation Present? Yes No ✓ De (includes capillary fringe)	pth (inches):	Wetland Hydrology Present?	Yes No✓
Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspect	ions), if available:	
Remarks:			
No primary and only one secondary inc	dicator of wetland hyd	drology present: parar	neter lacking
The primary and only one eccondary inc	and and the standard my	arology procent, param	notor laoking.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-015
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		OBL species 10.00 x 1 = 10.00
50% of total cover: 0.0	20% of	total cover:_	0.0	FACW species $0.00 \times 2 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				FAC species 0.00 x 3 = 0.00
				FACU species 7.00 x 4 = 28.00
2				UPL species $\frac{7.00}{57.00}$ $\frac{1}{2}$ $\frac{1}{$
3				Column Totals: 74.00 (A) 323.00 (B)
4				Column rotals. 17.00 (A) 323.00 (B)
5				Prevalence Index = B/A = 4.36
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:0.0	20% of	total cover:_	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:5' radius)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Stellaria media	50	<u> </u>	UPL	1 Toblematic Trydrophytic Vegetation (Explain)
_{2.} Packera glabella	10	<u>N</u>	OBL	¹ Indicators of hydric soil and wetland hydrology must
3. Carduus nutans	7	<u>N</u>	UPL	be present, unless disturbed or problematic.
4. Dichanthelium laxiflorum	7	N	<u>FACU</u>	Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				Continua (Clause Manda de contrata contrata de contrat
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	74.0	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>37.0</u>				Woody vine All woody vines greater than 2.29 ft in
Woody Vine Stratum (Plot size: 30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				
2				
3				
4				Hydrophytic
5				Vegetation
	^	= Total Cove	er	Present? Yes No
50% of total cover: 0.0	20% of	total cover:	0.0	
Remarks: (Include photo numbers here or on a separate s	heet.)			
Indicators of hydrophytic vegetation abs	ent; pa	rameter	lacking	J.

Profile Desc	ription: (Describe	to the depth	needed to docun	nent the i	ndicator	or confirm	the absence	of indicat	ors.)		
Depth	Matrix		Redo	x Features	S						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	ks	
0-12	10YR 4/3	100					SIL				
12-16	10YR 4/4	100					SIL				
								· ·			
								· ·			
								· -			
¹ Type: C=Co	oncentration, D=Dep	etion, RM=F	Reduced Matrix, MS	S=Masked	I Sand Gra	ains.	² Location: F	PI =Pore I in	ning. M=Mat	rix.	
Hydric Soil			toddood matrix, me						roblematic		oils ³ :
Histosol			Dark Surface	(97)					(A10) (MLR	-	
					oo (CO) /N /	II D A 4.47 ·			e Redox (A		
	pipedon (A2)		Polyvalue Be				1+0)(•	10)	
Black Hi			Thin Dark Su			41, 146)		(MLRA 1		oilo (E40)	
	n Sulfide (A4)		Loamy Gleye		Γ ∠)		_ '		loodplain So	ภเร (F19)	
	Layers (A5)		Depleted Mat		:0)		,	(MLRA 1		(TE40	`
	ick (A10) (LRR N)	(0.4.4)	Redox Dark S						w Dark Surf)
	Below Dark Surface	e (A11)	Depleted Dar				_ (Jtner (Expl	ain in Rema	rks)	
	ark Surface (A12)		Redox Depre								
	lucky Mineral (S1) (L	.RR N,	Iron-Mangan		es (F12) (I	LRR N,					
	A 147, 148)		MLRA 13	-			2.				
	lleyed Matrix (S4)		Umbric Surfa						nydrophytic	-	
	edox (S5)		Piedmont Flo						ology must		.,
	Matrix (S6)		Red Parent N	faterial (F	21) (MLR .	A 127, 147)) ur	nless disturb	oed or prob	lematic.	
Restrictive I	_ayer (if observed):										
Type:											
Depth (inc	ches):						Hydric Soi	I Present?	Yes	No	1
							,				
Remarks:	oil indicators a	heant: n	aramatar lac	kina							
riyuric sc	ni iriulcators a	psent, b	arameter iac	Kirig.							

Project/Site: Lost City Solar	City/County: Mu	hlenberg County s	ampling Date: 2024-04-03					
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-016					
Investigator(s): M.Herod, S. Davis	Section, Township	o, Range: N/A						
Landform (hillslope, terrace, etc.): Depression			Slope (%): 0-2					
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat:	37.098018	Long: <u>-86.994947</u>	Datum: NAD83					
Soil Map Unit Name: Zanesville silt loam, 6 to	12 percent slopes, seve	erely eroded NWI classificati	on: None					
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes	No (If no, explain in Rem	narks.)					
Are Vegetation, Soil, or Hydrology			_					
Are Vegetation, Soil, or Hydrology								
SUMMARY OF FINDINGS – Attach site ma								
	Hydrophytic Vegetation Present? Yes ✓ No Is the Sampled Area							
	No within a W		No					
Wetland Hydrology Present? Yes <u>✓</u>	No							
All parameters met; area is considered a palustrine emergent (PEM) wetland. The lead delineator conducted a due diligence review of the Antecedent Precipitation Tool (APT) and determined that hydrologic conditions were normal at the time of survey.								
HYDROLOGY								
Wetland Hydrology Indicators:		Secondary Indicator	rs (minimum of two required)					
Primary Indicators (minimum of one is required; check	all that apply)	Surface Soil Cr	acks (B6)					
	rue Aquatic Plants (B14)	Sparsely Veget	ated Concave Surface (B8)					
	lydrogen Sulfide Odor (C1)	✓ Drainage Patte						
	Oxidized Rhizospheres on Living							
	Presence of Reduced Iron (C4)	✓ Dry-Season Wa						
	Recent Iron Reduction in Tilled So							
	hin Muck Surface (C7)		ole on Aerial Imagery (C9)					
	Other (Explain in Remarks)		ssed Plants (D1)					
Iron Deposits (B5)		✓ Geomorphic Po						
Inundation Visible on Aerial Imagery (B7)		Shallow Aquita						
Water-Stained Leaves (B9)		Microtopograph						
Aquatic Fauna (B13)		✓ FAC-Neutral Te	est (D5)					
Field Observations: Surface Water Present? Yes ✓ No	Depth (inches): 4							
	Depth (inches):							
	Depth (inches):	Wetland Hydrology Present?	Vas J No					
(includes capillary fringe)			162 <u>V</u> NO					
Describe Recorded Data (stream gauge, monitoring we	II, aerial photos, previous inspec	tions), if available:						
Remarks: At least one primary or two secondar	v indicators observed	· narameter met						
The loads one primary of two decondar	y indicators observed	, parameter met.						
1								

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-016
	Absolute	Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>) 1. No rooted trees present	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)
2				Total Number of Deminent
3				Total Number of Dominant Species Across All Strata: 3 (B)
4.				Sporice / torone / time triata.
·· <u> </u>	-			Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
1		T		Total % Cover of: Multiply by:
50% of total cover: 0.0		= Total Cov		OBL species 10.00 x 1 = 10.00
	20% 01	iolai covei.	0.0	FACW species 10.00 x 2 = 20.00
Sapling/Shrub Stratum (Plot size: 15' radius)				FAC species $5.00 \times 3 = 15.00$
		· 		FACU species 0.00 x 4 = 0.00
2				
3				
4				Column Totals: <u>25.00</u> (A) <u>45.00</u> (B)
5				Prevalence Index = B/A = 1.8
6				Hydrophytic Vegetation Indicators:
7				
8				1 - Rapid Test for Hydrophytic Vegetation
9				✓ 2 - Dominance Test is >50%
<u> </u>	0	= Total Cov	er	✓ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)			0.0	data in Remarks or on a separate sheet)
1. Carex crinita	10	Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Juncus effusus	10		FACW	
- Dumay arianua		·		¹ Indicators of hydric soil and wetland hydrology must
3. Rumex crispus		<u> </u>	FAC	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11		· ·		Harb All borbossous (non woods) plants, regardless
		= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:12.5				
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in
1. No rooted vines present				height.
	·			
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cov		Present? Yes <u>√</u> No
50% of total cover: 0.0		total cover:	0.0	
Remarks: (Include photo numbers here or on a separate s			500 /	
Indicator 2 (Dominance Test) present w				
parameter met. Prevalence Index calcul	lated fo	r referer	nce pur	poses only.
			-	

Profile Desc	cription: (D	escribe t	o the de	oth needed	to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix Redox Features									
(inches)	Color (ı		%	Color (r	noist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-2	10YR	5/2	90	10YR	6/8	10	C	M/PL	SI	
2-10	10YR	5/2	80	10YR	6/8	10	С	М	SIL	
	10YR	5/1	10	10111	0,0				SIL	-
10.10				10VD	6/0				OIL	
10-18	10YR	5/3	70	<u>10YR</u>	6/8	5	-			
	10YR	5/2	25							· -
		_						- (
				-						
	-									
								<u> </u>		
¹ Type: C=C			etion, RM	=Reduced N	/latrix, MS	S=Masked	Sand Gr	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:								Indic	cators for Problematic Hydric Soils ³ :
Histosol					k Surface	. ,				2 cm Muck (A10) (MLRA 147)
Histic Ep	pipedon (A2	2)					. , .	VILRA 147,	148) (Coast Prairie Redox (A16)
Black Hi	istic (A3)					ırface (S9)		147, 148)		(MLRA 147, 148)
Hydroge	en Sulfide (A	\4)		Loa	my Gleye	ed Matrix (I	- 2)		'	Piedmont Floodplain Soils (F19)
Stratified	d Layers (A	5)		_✓ Dep	leted Ma	trix (F3)				(MLRA 136, 147)
2 cm Mu	uck (A10) (L	RR N)		Rec	ox Dark	Surface (F	6)		\	Very Shallow Dark Surface (TF12)
Depleted	d Below Da	rk Surface	(A11)	Dep	leted Da	rk Surface	(F7)		(Other (Explain in Remarks)
Thick Da	ark Surface	(A12)		Rec	lox Depre	essions (F8	3)			
	/lucky Miner		RR N.			ese Masse		LRR N.		
	A 147, 148)		,		ILRA 13		, , ,	,		
	Gleyed Matri					ice (F13) (i	MIRA 13	36, 122)	3In	dicators of hydrophytic vegetation and
	Redox (S5)	х (О-1)						(MLRA 14		etland hydrology must be present,
	Matrix (S6)	١						A 127, 147		nless disturbed or problematic.
Restrictive					i arciit i	viatoriai (i z	21) (IVILI	121, 171	, ui	niess disturbed of problematic.
Type:		oci veaj.								
Depth (in									Hydric Soi	il Present? Yes No
	Crics)								Tiyunc 301	in resent: res_v No
Remarks: Hydric so	ail indica	tor E2	(Donl	otod Ma	triv) n	ocont:	naran	notor m	nt .	
riyunc sc	JII II IUICa	aloi F3	(Debi	eteu ivia	iiix) pi	esem,	paran	ietei iiit	ટા.	

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-017
Investigator(s): S.Davis, M.Herod	Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none): None Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.098	
	cent slopes, severely eroded NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of	
	antly disturbed? Are "Normal Circumstances" present? Yes✓_ No
	y problematic? (If needed, explain any answers in Remarks.)
	ring sampling point locations, transects, important features, etc.
Lhidranhi tia Vagatatian Brasant?	
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓	Is the Sampled Area
Wetland Hydrology Present? Yes No_ ✓	within a Wetland? Yes No
Remarks:	
	t considered a definitional wetland. The lead delineator
_	tecedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the time	ne of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	
	tic Plants (B14) Sparsely Vegetated Concave Surface (B8)
	Sulfide Odor (C1) Drainage Patterns (B10)
	hizospheres on Living Roots (C3) Moss Trim Lines (B16)
	of Reduced Iron (C4) Dry-Season Water Table (C2)
	Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck S	
Algal Mat or Crust (B4) Other (Expl	lain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _✓ Depth (incl	
Water Table Present? Yes No Depth (incl	
Saturation Present? Yes No ✓ Depth (includes capillary fringe)	thes): Wetland Hydrology Present? Yes No ✓
Describe Recorded Data (stream gauge, monitoring well, aerial p	hotos, previous inspections), if available:
Remarks:	
	or of wetland hydrology present; parameter lacking.
Two primary and only one secondary indicate	or wettand hydrology present, parameter lacking.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: <u>DP-017</u>
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC:0 (A)
2				Total Number of Dominant
3		-		Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
50% of total cover:0.0		= Total Cove		OBL species 5.00 x 1 = 5.00
Sapling/Shrub Stratum (Plot size: 15' radius)	20 /6 01	total cover.	0.0	FACW species 0.00 x 2 = 0.00
No rooted sanlings/shrubs present				FAC species 0.00 x 3 = 0.00
		-	-	FACU species 7.00 x 4 = 28.00
				UPL species 50.00 x 5 = 250.00
3				Column Totals: 62.00 (A) 283.00 (B)
4				()
5				Prevalence Index = B/A = 4.56
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8		-		2 - Dominance Test is >50%
9		= Total Cove		3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)	2070 01	total oover	0.0	data in Remarks or on a separate sheet)
1. Stellaria media	50	Υ	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Dichanthelium laxiflorum	7	N	FACU	
3. Packera glabella	5	N	OBL	¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Four Vegetation Strata:
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10.				m) tall.
11.				Harb All barbassays (non woody) planta regardless
	62.0	= Total Cove	 er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>31.0</u>				Manda de dina Allemande de la constante de la COO (C)
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cove	er	Present? Yes No
50% of total cover: 0.0	20% of	total cover:	0.0	
Remarks: (Include photo numbers here or on a separate s				
Indicators of hydrophytic vegetation abs	ent; pa	rameter	lacking) .

Profile Desc	ription: (Describe	to the deptl	n needed to docun	nent the i	ndicator	or confirm	the absence	e of indica	tors.)		
Depth	Matrix		Redox	K Feature:	S						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	_	Remar	ks	
0-12	10YR 4/3	100					SIL				
12-18	10YR 4/4	100					SIL				
12-10	101K 4/4	100					- SIL				
								_			
	-						-				
	oncentration, D=Dep	letion, RM=I	Reduced Matrix, MS	S=Masked	Sand Gra	ains.			ning, M=Mat		
Hydric Soil	Indicators:						Indi	cators for I	Problemation	: Hydric So	oils³:
Histosol	(A1)		Dark Surface	(S7)				2 cm Muck	(A10) (MLR	A 147)	
Histic Ep	pipedon (A2)		Polyvalue Be	low Surfa	ce (S8) (N	ILRA 147,	148)	Coast Prair	ie Redox (A	16)	
Black Hi			Thin Dark Su				. —	(MLRA 1		ŕ	
	n Sulfide (A4)		Loamy Gleye			,			loodplain S	oils (F19)	
	Layers (A5)		Depleted Mat		,				36, 147)	, ,	
	ick (A10) (LRR N)		Redox Dark S		- 6)			•	w Dark Surf	ace (TF12))
	d Below Dark Surface	e (A11)	Depleted Dar						ain in Rema		
	ark Surface (A12)	,	Redox Depre					` '		,	
	lucky Mineral (S1) (L	.RR N.	Iron-Mangane			RR N.					
	\ 147, 148)	,	MLRA 130		() (-	,					
	Gleyed Matrix (S4)		Umbric Surfa	•	MI RA 13	6. 122)	³ lr	dicators of	hydrophytic	vegetation	and
	ledox (S5)		Piedmont Flo						ology must	-	
	Matrix (S6)		Red Parent M						bed or prob		
	_ayer (if observed):		Red r arent iv	iateriai (i	Z I) (IVILIX	A 121, 141	, .	ii iiess distui	bed of prob	iemanc.	
	Layer (II Observed).										
Type:											,
Depth (inc	ches):		<u> </u>				Hydric Sc	il Present?	Yes	No _	✓
Remarks:											
Hydric so	oil indicators a	bsent; p	arameter lac	king.							
-				_							

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-018
Investigator(s): M.Herod, S.Davis	
• , ,	ocal relief (concave, convex, none): Concave Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.09977	· · · · · · · · · · · · · · · · · · ·
Soil Map Unit Name: Sadler silt loam, 2 to 6 percent s	
Are climatic / hydrologic conditions on the site typical for this time of y	
Are Vegetation, Soil, or Hydrology significantl	,
Are Vegetation, Soil, or Hydrology naturally p	
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Veg. No. /	
Hydrophytic Vegetation Present? Yes No_ ✓ Hydric Soil Present? Yes No_ ✓	Is the Sampled Area
Wetland Hydrology Present? Yes No_ ✓	within a Wetland? Yes No
Remarks:	<u>- </u>
	considered a definitional wetland. The lead delineator
i i	cedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the time	of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
Surface Water (A1) True Aquatic	
High Water Table (A2) Hydrogen Sul	
	ospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of R	
	eduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Su	
Algal Mat or Crust (B4) Other (Explain	
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ Depth (inche	s):
Water Table Present? Yes No Depth (inche	s):
Saturation Present? Yes No✓ Depth (inche	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos previous inspections) if available:
, , , , , , , , , , , , , , , , , , , ,	.os, previous inspections), ii available.
Remarks:	
No primary and only one secondary indicator	of wetland hydrology present; parameter lacking.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-018
	Absolute	- Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30' radius)		Species?		Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC:1 (A)
2				
3				Total Number of Dominant Species Across All Strata: 4 (B)
4				Species Across Air Strata.
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 25.00 (A/B)
6			-	Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		
50% of total cover: 0.0	20% of	total cover:	0.0	· — — — — — — — — — — — — — — — — — — —
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species $5.00 \times 2 = 10.00$
1. No rooted saplings/shrubs present				FAC species $0.00 \times 3 = 0.00$
2				FACU species 10.00 x 4 = 40.00
3				UPL species <u>5.00</u> x 5 = <u>25.00</u>
4				Column Totals: 20.00 (A) 75.00 (B)
5				0.75
				Prevalence Index = B/A = 3.75
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:5' radius)				Problematic Hydrophytic Vegetation¹ (Explain)
1. Juncus effusus	5	<u> </u>	FACW	Floblematic Hydrophytic Vegetation (Explain)
2. Allium vineale	5	Y	FACU	
3. Rubus laciniatus	5	Y	UPL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Dichanthelium laxiflorum	5	Υ	FACU	
5				Definitions of Four Vegetation Strata:
6.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7.				more in diameter at breast height (DBH), regardless of
1				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9			-	than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover:10.0	20% of	total cover:	4.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:30' radius)				height.
1. No rooted vines present				
2				
3.				
4				
5				Hydrophytic Vegetation
<u>. </u>	_	= Total Cove		Present? Yes No
50% of total cover: 0.0				
		total cover.	0.0	
Remarks: (Include photo numbers here or on a separate sl Indicators of hydrophytic vegetation abs		rameter	lacking	1
indicators of flydrophytic vegetation abs	ciit, pa	iamoto	iackiiig	j·

	cription: (Describe t	to the dep				or confirm	the absence	of indicate	ors.)		
Depth	Matrix Color (moist)	%	Redo Color (moist)	x Features	s _Type ¹	Loc ²	Texture		Remar	ko	
(inches) 0-12				<u>%</u> 5	туре	LUC	SIL		Remai	KS	
0-12	10YR 4/3	95	10YR 6/8		-		SIL				
					-	·					
		-			-	· ——		-			
		-						-			
1Typo: C-C	oncentration, D=Depl	otion PM	-Poducod Matrix MS	S-Mackad	I Sand Gr	oine	² Location: P	I –Poro Lini	ing M-Mat	riv	
Hydric Soil		ellon, Kivi	=Neduced Matrix, Mi	3=IVIASKEU	i Sanu Gi	all i5.				Hydric So	ils³:
Histosol			Dark Surface	(97)				cm Muck (-	
	pipedon (A2)		Polyvalue Be		co (S8) (N	/II DΛ 1/17		Coast Prairie			
Black Hi			Tolyvalde Be				(MLRA 14		10)	
	en Sulfide (A4)		Loamy Gleye			147, 140)	F	Piedmont Flo		nils (F19)	
	d Layers (A5)		Depleted Ma		. 2)		<u> </u>	(MLRA 13) (1 10)	
	ick (A10) (LRR N)		Redox Dark		6)		V	ery Shallov		ace (TF12)	
	d Below Dark Surface	e (A11)	Depleted Da	,	,			Other (Expla			
	ark Surface (A12)	, ,	Redox Depre				<u>—</u>	` .		,	
	lucky Mineral (S1) (L	.RR N,	Iron-Mangan			LRR N,					
	A 147, 148)		MLRA 13								
Sandy G	Bleyed Matrix (S4)		Umbric Surfa	ice (F13) (MLRA 13	6, 122)	³ Inc	licators of h	ydrophytic	vegetation a	and
	Redox (S5)		Piedmont Flo	odplain S	oils (F19)	(MLRA 14	8) we	etland hydro	logy must	be present,	
Stripped	Matrix (S6)		Red Parent N	Material (F	21) (MLR	A 127, 147	') un	less disturb	ed or probl	ematic.	
Restrictive I	Layer (if observed):										
Type: G	ravel										
	ches): <u>12</u>		<u>_</u>				Hydric Soil	Present?	Yes	No	✓
Remarks:	,										
	. T. C										
Hydric sc	oil indicators a	bsent;	parameter lac	king.							
Auger re	fusal due to gr	avel la	yer; soils sam	pled sh	hallowl	у.					
_											

Project/Site: Lost City Solar	City/County: Muhlen	berg County S	ampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-019
Investigator(s): S.Davis, M.Herod	Section, Township, Ran	ge: N/A	. •
Landform (hillslope, terrace, etc.): Sideslope Lo	cal relief (concave, conve	ex, none): Convex	Slope (%): 3-7
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.10233		• •	Datum: NAD83
Soil Map Unit Name: Frondorf-Lenberg complex, 20 to			
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes <u>√</u> No	(If no, explain in Rem	narks.)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "N	Normal Circumstances" pres	sent? Yes <u>√</u> No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If nee	eded, explain any answers i	in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point lo	cations, transects, i	mportant features, etc.
Lhydrophytic Vegetation Procest?			
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓	Is the Sampled		/
Wetland Hydrology Present? Yes No ✓	within a Wetland	d? Yes	No <u>√</u>
Remarks:			
One or more parameters lacking; area is not o			
conducted a due diligence review of the Antec	•	on Tool (APT) and	determined that
hydrologic conditions were normal at the time	oi survey.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicator	rs (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil Cra	acks (B6)
Surface Water (A1) True Aquatic F	lants (B14)	Sparsely Veget	ated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulf	de Odor (C1)	Drainage Patter	rns (B10)
Saturation (A3) Oxidized Rhizo	spheres on Living Roots	(C3) Moss Trim Line	s (B16)
Water Marks (B1) Presence of Re		Dry-Season Wa	ater Table (C2)
	eduction in Tilled Soils (C		
Drift Deposits (B3) Thin Muck Sur			ole on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain	in Remarks)		ssed Plants (D1)
Iron Deposits (B5)		Geomorphic Po	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitar	
Water-Stained Leaves (B9)		Microtopograph	
Aquatic Fauna (B13) Field Observations:		FAC-Neutral Te	:St (D3)
Surface Water Present? Yes No✓ Depth (inches):		
Water Table Present? Yes No _✓ Depth (inches			
Saturation Present? Yes No ✓ Depth (inches		land Hydrology Present?	Yes No ✓
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial phot			
Describe Recorded Data (Stream gauge, monitoring well, aerial prior	os, previous irispections),	, ii avaliable.	
Remarks: Indicators of wetland hydrology absent; param	eter lacking		
maioators of wettaria riyarology absent, paran	cter lacking.		

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-019
	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)		Species?		Number of Dominant Species
1. Quercus montana	<u>40</u>	<u>Y</u>	UPL	That Are OBL, FACW, or FAC:0 (A)
2. Quercus rubra	5	N	FACU	Total Number of Dominant
3		-		Species Across All Strata:3 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7	45 O	= Total Cove		Total % Cover of: Multiply by:
50% of total cover: <u>22.5</u>				OBL species0.00 x 1 =0.00
Sapling/Shrub Stratum (Plot size: 15' radius)	2070 01		0.0	FACW species0.00 x 2 =0.00
1. Fagus grandifolia	20	Υ	FACU	FAC species0.00 x 3 =0.00
2. Lonicera mackii	10	Y	UPL	FACU species <u>25.00</u> x 4 = <u>100.00</u>
3				UPL species
4				Column Totals: <u>75.00</u> (A) <u>350.00</u> (B)
5		-		D 1 1 2 2 4 C7
6				Prevalence Index = B/A = 4.67
7				Hydrophytic Vegetation Indicators:
8				1 - Rapid Test for Hydrophytic Vegetation
9.				2 - Dominance Test is >50%
	30.0	= Total Cove		3 - Prevalence Index is ≤3.0 ¹
50% of total cover:15.0				4 - Morphological Adaptations¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)				data in Remarks or on a separate sheet)
1. No rooted herbs present				Problematic Hydrophytic Vegetation ¹ (Explain)
2				The disease of headric and contained headrale accept
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>0.0</u>	20% of	total cover:	0.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)				height.
1. No rooted vines present		-		
2				
3				
4				Hydrophytic
5				Vegetation Present?
50% of total cover: 0.0		= Total Cove		103 100
		total cover.	0.0	
Remarks: (Include photo numbers here or on a separate sl Indicators of hydrophytic vegetation abs		rameter	lacking	1.
marcatore of thy all opiny the regulation abo	o, pa			,.

Profile Desc	ription: (D	escribe t	o the dep	h needed to document the indicator or confirm	the abse	ence of indicators.)
Depth		Matrix		Redox Features		
(inches)	Color (r		%	Color (moist) % Type ¹ Loc ²	Textur	
0-6	10YR	3/3	25		SIC	
	10YR	4/3	10		SIC	
-	10YR	5/4	65		SIC	
6-14	10YR	3/3	40		SIL	
	10YR	4/3	10		SIL	
	10YR	5/4	60		SIL	
4440						
14-18	<u>10YR</u>	5/8	100		SIL	·
	-					
	·					
ı ———						
			etion, RM=	Reduced Matrix, MS=Masked Sand Grains.		n: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:				li	ndicators for Problematic Hydric Soils ³ :
Histosol				Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)
	oipedon (A2	2)		Polyvalue Below Surface (S8) (MLRA 147,	148) _	Coast Prairie Redox (A16)
	stic (A3)	. 4)		Thin Dark Surface (S9) (MLRA 147, 148)		(MLRA 147, 148)
	en Sulfide (A d Layers (At	,		Loamy Gleyed Matrix (F2)Depleted Matrix (F3)	_	Piedmont Floodplain Soils (F19) (MLRA 136, 147)
	uck (A10) (L			Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)
	d Below Dai		e (A11)	Depleted Dark Surface (F7)	_	Other (Explain in Remarks)
	ark Surface		,	Redox Depressions (F8)	_	
Sandy N	lucky Miner	al (S1) (L	RR N,	Iron-Manganese Masses (F12) (LRR N,		
	A 147, 148)			MLRA 136)		
	Sleyed Matri	x (S4)		Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and
	Redox (S5)			Piedmont Floodplain Soils (F19) (MLRA 148		wetland hydrology must be present,
	Matrix (S6)			Red Parent Material (F21) (MLRA 127, 147)	7)	unless disturbed or problematic.
Restrictive I						
						,
Depth (in	ches):			<u> </u>	Hydric	Soil Present? Yes No
Remarks:	ممالممالية	4	L 4			
Hyaric so	oii inaica	ators a	osent; p	parameter lacking.		

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-020
	Section, Township, Range: N/A
	Local relief (concave, convex, none): Microtopography Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.109	· · · · · · · · · · · · · · · · · · ·
	cent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time	
Are Vegetation, Soil, or Hydrology signification	
Are Vegetation, Soil, or Hydrology naturall	
	ring sampling point locations, transects, important features, etc.
Lhudrashutia Variation Present?	
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No No	is the Sampled Area
Wetland Hydrology Present? Yes ✓ No	Within a Wetland: 165 V NO
Remarks:	
	llustrine emergent (PEM) wetland. The lead delineator
	tecedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the tin	ne of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	· · · · · · · · · · · · · · · · · · ·
	tic Plants (B14) Sparsely Vegetated Concave Surface (B8)
	Sulfide Odor (C1) V Drainage Patterns (B10)
	hizospheres on Living Roots (C3) Moss Trim Lines (B16)
	of Reduced Iron (C4) Dry-Season Water Table (C2)
	n Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
	Surface (C7) Saturation Visible on Aerial Imagery (C9)
	lain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)
Field Observations:	_
Surface Water Present? Yes _ ✓ No Depth (inc	·
Water Table Present? Yes No ✓ _ Depth (inc	_
Saturation Present? Yes No _ ✓ Depth (includes capillary fringe)	ches): Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial p	hotos, previous inspections), if available:
Remarks:	
At least one primary or two secondary indic	ators observed; parameter met.
I .	

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-020
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>) 1. No rooted trees present		Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
2				
3				Total Number of Dominant Species Across All Strata: 2 (B)
4				Opedies Across Air Strata.
				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
50% of total cover: 0.0		= Total Cove		OBL species 30.00 x 1 = 30.00
	20% 01	total cover.	0.0	FACW species $50.00 \times 2 = 100.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				FAC species $0.00 \times 3 = 0.00$
1. No rooted saplings/shrubs present				FACU species $0.00 \times 4 = 0.00$
2				UPL species $0.00 \times 5 = 0.00$
3				
4				Column Totals: 80.00 (A) 130.00 (B)
5				Prevalence Index = B/A = 1.62
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9.				
	0	= Total Cove	er	✓ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0	20% of	total cover:	0.0	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)				data in Remarks or on a separate sheet)
1. Juncus effusus	50	Υ	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Carex crinita	30	Y	OBL	
3				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
1				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>40.0</u>	20% of	total cover:	16.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:30' radius)				height.
1. No rooted vines present				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cove	er	Present? Yes _ ✓ No
50% of total cover: 0.0	· · · · · · · · · · · · · · · · · · ·			
Remarks: (Include photo numbers here or on a separate sl	neet.)			<u> </u>
Indicator 1 (Rapid Test) present with all		nt enec	ios FAC	W or OBI: parameter met
` . , .				· ·
Dominance Test and Prevalence Index	caiculai	eu ioi fe	ererenc	e purposes orlly.

Profile Desc	ription: (D	escribe t	o the dep	oth needed	to docun	nent the ir	ndicator	or confirm	the absence	e of indicators.)
Depth		Matrix			Redo	x Features	;			
(inches)	Color (r	moist)	%	Color (r	noist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	10YR	4/2	90	10YR	5/8	10	С	M/PL	SICL	
6-18	10YR	4/2	80	10YR	5/8	10	С	М		
0-10				1011	3/0	10				
	<u>10YR</u>	2/1	10						1	
									1	
									-	
									1	
	-			-						-
1 _T 0. 0.		D David	-tion DM	Dadwaad		Naalaad	Canal Ca		21	D. Dave Lining M. Matrix
¹ Type: C=Co			etion, Rivi	=Reduced i	viatrix, ivis	s=iviasked	Sand Gr	ains.		PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils ³ :
_				_						-
Histosol					k Surface					2 cm Muck (A10) (MLRA 147)
	pipedon (A2)						VILRA 147,	148) (Coast Prairie Redox (A16)
Black Hi						rface (S9)		147, 148)		(MLRA 147, 148)
	n Sulfide (A					d Matrix (F	- 2)		'	Piedmont Floodplain Soils (F19)
	Layers (A	,			oleted Mat					(MLRA 136, 147)
	ick (A10) (L					Surface (F				Very Shallow Dark Surface (TF12)
	Below Dai		(A11)			k Surface			(Other (Explain in Remarks)
	ark Surface					ssions (F8		(I DD 11		
	lucky Miner	al (S1) (L	RR N,			ese Masse	es (F12) ((LRR N,		
	147, 148)	(0.4)			MLRA 13	-			3,	
	lleyed Matri	x (S4)				ce (F13) (I				dicators of hydrophytic vegetation and
	edox (S5)							(MLRA 14		etland hydrology must be present,
	Matrix (S6)			Red	Parent N	/laterial (F2	21) (ML R	RA 127, 147) ur	nless disturbed or problematic.
Restrictive I	_ayer (if ob	served):								
Type:										
Depth (inc	ches):								Hydric Soi	I Present? Yes No
Remarks:			_							
Hydric so	oil indica	ator F3	(Depl	eted Ma	trix) pr	esent;	paran	neter me	et.	

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-021
	Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Footslope L	ocal relief (concave, convex, none): Concave Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.11053	B4 Long: -86.988270 Datum: NAD83
Soil Map Unit Name: Wellston silt loam, 2 to 6 percen	t slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of y	rear? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantl	,
Are Vegetation, Soil, or Hydrology naturally p	•
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No_ ✓	
Hydric Soil Present? Yes No_ ✓	- Is the Sampled Area - within a Wetland? Yes No ✓
Wetland Hydrology Present? Yes No _ ✓	- within a Wetland? Yes No
Remarks:	
	considered a definitional wetland. The lead delineator
S S	cedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the time	of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic	Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sul	fide Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized Rhiz	ospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of F	Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron R	eduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Su	
Algal Mat or Crust (B4) Other (Explain	n in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ _ Depth (inche Water Table Present? Yes No ✓ _ Depth (inche	
Saturation Present? Yes No _ ✓ Depth (inche (includes capillary fringe)	s): Wetland Hydrology Present? Yes NoV
Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspections), if available:
Remarks:	
No primary and only one secondary indicator	of wetland hydrology present; parameter lacking.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-021
	Absolute	Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
FOOV of total covery 0.0		= Total Cove		OBL species 0.00 x 1 = 0.00
50% of total cover:0.0 Sapling/Shrub Stratum (Plot size:15' radius)	20% 01	iolai covei.	0.0	FACW species 0.00 x 2 = 0.00
1. No rooted saplings/shrubs present				FAC species 0.00 x 3 = 0.00
0				FACU species 90.00 x 4 = 360.00
				UPL species 5.00 x 5 = 25.00
3				Column Totals: 95.00 (A) 385.00 (B)
4 5.				
•				Prevalence Index = B/A = 4.05
6		-		Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9	0	= Total Cove		3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)				data in Remarks or on a separate sheet)
1. Festuca subverticillata	90	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Lamium purpureum		N	UPL	
3				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Four Vegetation Strata:
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7.				more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Harb All barbassaus (non woody) planta regardless
	95.0	= Total Cove	er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>47.5</u>				Woody vine All woody vines greater than 2.29 ft in
Woody Vine Stratum (Plot size: 30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				_
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cove	er	Present? Yes No✓
50% of total cover: 0.0		total cover:	0.0	
Remarks: (Include photo numbers here or on a separate si		romotor	lookina	.
Indicators of hydrophytic vegetation abs	епі, ра	rameter	iacking	J.

Profile Desc	ription: (D	escribe t	o the dep	oth needed	to docun	nent the i	ndicator	or confirm	the absence	of indicat	ors.)		
Depth		Matrix			x Features	6							
(inches)	Color (ı		%	Color (r	noist)	<u>%</u>	Type ¹	Loc ²	Texture		Remar	ks	
0-4	10YR	4/3	95	10YR	5/8	5	C	М	SIL				
4-18	10YR	4/4	90	10YR	5/8	7	C	M	SIL				
				1011	3/0			171					
	<u>10YR</u>	2/1	3						SIL				
						·		· ·					
	-			-			-			-			
							-						 ,
¹ Type: C=C	oncentration	n, D=Depl	etion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.	² Location: P	L=Pore Lin	ning, M=Mat	rix.	
Hydric Soil											roblematic		oils³:
Histosol	(A1)			Dar	k Surface	(S7)			2	cm Muck ((A10) (MLR	A 147)	
	oipedon (A2	2)					ce (S8) (N	ILRA 147,			e Redox (A		
	stic (A3)	.,			•	rface (S9)	. , .		, 0	(MLRA 1	•	.0)	
	en Sulfide (A	141				d Matrix (141, 140)	P		loodplain So	nils (F19)	
	d Layers (A				oleted Mat		<i>' ' '</i>		'	(MLRA 1		5113 (1 15)	
	ıck (A10) (L	,				Surface (F	(e)		1/		w Dark Surf	200 (TE12	`
	d Below Da		\((\ 1 1 \)			k Surface					ain in Rema		<i>'</i>
	ark Surface		(/(11)			ssions (F				unei (Expid		ii Ko)	
			DD N					LDDN					
	Mucky Miner		KK N,			ese Masse	35 (F12) (LKK N,					
	A 147, 148)				MLRA 13	•			3, ,				
	Bleyed Matri	ix (S4)				ce (F13) (nydrophytic	-	
	Redox (S5)							(MLRA 14			ology must		,
	Matrix (S6)			Red	Parent N	/laterial (F	21) (MLR	A 127, 147	7) un	less disturb	bed or prob	lematic.	
Restrictive I	Layer (if ob	served):											
Type:													
Depth (in	ches):								Hydric Soil	Present?	Yes	No _	✓
Remarks:													
Hydric so	oil indica	ators a	bsent;	parame	ter lac	king.							
•				•		Ū							

Project/Site: Lost City Solar	City/County: Mul	nlenberg County s	ampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-022
	Section, Township	, Range: N/A	
Landform (hillslope, terrace, etc.): Footslope		-	Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat:	,	Long: -86.987678	
Soil Map Unit Name: Belknap silt loam, 0 to 2		·	
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes N	No (If no, explain in Rem	narks.)
Are Vegetation, Soil, or Hydrology			_
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site ma			
Hydrophytic Vegetation Present? Yes	No. 🗸		
	No. /		/
Wetland Hydrology Present? Yes		etland? Yes	No <u>√</u>
Remarks:	L		
One or more parameters lacking; are			
conducted a due diligence review of	•	itation Tool (APT) and	d determined that
hydrologic conditions were normal at	the time of survey.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicator	rs (minimum of two required)
Primary Indicators (minimum of one is required; check	all that apply)	Surface Soil Cra	acks (B6)
Surface Water (A1)	True Aquatic Plants (B14)	Sparsely Veget	ated Concave Surface (B8)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Drainage Patter	rns (B10)
Saturation (A3)	Oxidized Rhizospheres on Living F	Roots (C3) Moss Trim Line	s (B16)
Water Marks (B1)	Presence of Reduced Iron (C4)	Dry-Season Wa	ater Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled So	ils (C6) Crayfish Burrow	vs (C8)
Drift Deposits (B3)	Thin Muck Surface (C7)	Saturation Visib	ole on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Stunted or Stre	ssed Plants (D1)
Iron Deposits (B5)		✓ Geomorphic Po	osition (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitar	rd (D3)
Water-Stained Leaves (B9)		Microtopograph	nic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Te	est (D5)
Field Observations:			
	Depth (inches):		
	Depth (inches):		,
Saturation Present? Yes No✓ (includes capillary fringe)	Depth (inches):	Wetland Hydrology Present?	Yes No <u>√</u>
Describe Recorded Data (stream gauge, monitoring w	ell, aerial photos, previous inspec	tions), if available:	
Remarks:			
No primary and only one secondary	indicator of wetland hy	drology present; para	meter lacking.
		, p	g.

1. Festuca subverticillata 2. Lamium purpureum 3.	/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: <u>DP-022</u>
1. No rooted trees present 2		Absolute	Dominant	Indicator	Dominance Test worksheet:
2		% Cover	Species?	Status	
Septice Across All Stratus	1. No rooted trees present				That Are OBL, FACW, or FAC: (A)
4.					
5.	3				Species Across All Strata:1 (B)
Frevalence Index worksheet: Total % Cover of:	4				
Prevalence Index worksheet: Total Scover Multiply by: Saapling/Shrub Stratum (Plot size: 15' radius	5				That Are OBL, FACW, or FAC: 0.00 (A/B)
Collaboration Collaborati					Prevalence Index worksheet:
Saping/Shrub Stratum (Plot size: 15' radius 1. No rooted sapilings/shrubs present	7				Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size 15 'radius 1. No rooted saplings/shrubs present 1. Pack	50% of total cover: 0.0				OBL species $0.00 \times 1 = 0.00$
1. No rooted saplings/shrubs present 2.		20 /6 01	total cover.	0.0	
2 2	No rooted sanlings/shrubs present				0.00
3	•				
Column Totals: 95.00 (A) 385.00 (B) Prevalence Index = B/A = 4.05 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% of total cover: 50% of					
Prevalence Index = B/A = 4.05 Prevalence Index = B/A = 4.05 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0' 4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) Fostuca subverticillata					
Fevalence look = 5.7. 8.	_				
7					Prevalence Index = $B/A = 4.05$
8					
9	<u> </u>				
Comparison Co			·		2 - Dominance Test is >50%
Solve of total cover: 0.0 20% of total cover: 0.0 data in Remarks or on a separate sheet)	9		Tatal Caus		
Herb Stratum (Plot size:5' radius	50% of total cover: 0.0				4 - Morphological Adaptations ¹ (Provide supporting
1. Festura subverticillata 2. Lamium purpureum 5 N UPL 3		2070 01	total cover.	0.0	data in Remarks or on a separate sheet)
2. Lamium purpureum 5 N UPL 3.	(1 lot 6/26	90	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3					
4				<u> </u>	
5. 6. 7. 8. 9. 9. 9. 9. 10. 10. 11. 11. 11. 11. 11. 11. 11. 11	л. Л				
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. 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 Stratum (Plot size: 30' radius) No rooted vines present 2. 3. 4. 5. 0. 0. 1 Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 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.)	5				Definitions of Four Vegetation Strata:
7					
8	7				
9					neight.
10					
11					
Solution Stratum Solution Solu					
50% of total cover: 47.5 20% of total cover: 19.0		95.0	– Total Cov		
Woody Vine Stratum (Plot size: 30' radius) 1. No rooted vines present 2.	50% of total cover: 47.5				
1. No rooted vines present 2.			-		
3					neight.
3	2.				
4			· · · · · · · · · · · · · · · · · · ·		
5					
	_				
50% of total cover: 0.0 20% of total cover: 0.0 Remarks: (Include photo numbers here or on a separate sheet.)	<u> </u>	_			
Remarks: (Include photo numbers here or on a separate sheet.)	50% of total cover: 0.0				
			rameter	lacking) .
		-			

Profile Desc	ription: (Describe t	o the dep	th needed	to docun	nent the i	ndicator	or confirm	n the absence	of indicators	.)	
Depth	Matrix			Redo	x Features	S					
(inches)	Color (moist)	%	Color (m	noist)	%	Type ¹	Loc ²	Texture		Remarks	
0-6	10YR 4/3	95	10YR	5/8	5	С	M	SIL			
4-18	10YR 4/4	95	10YR	6/8	5	С	M	SIL	-		
4-10	1011 4/4		1011	0/0			IVI	- SIL			
			-			-	. ———				
											
									-		
											_
1 _T C. C.		-tion DM	Dadwaad N	4-4-i NAC				21	Dans Lining	M. Matrix	
Hydric Soil I	oncentration, D=Depl	etion, Rivi	=Reaucea IV	iatrix, ivis	s=iviasked	Sand Gr	ains.		PL=Pore Lining, cators for Prob		lric Soile ³ :
-			D1	0 ((07)					•	
Histosol				Surface		(00) (8	N DA 447		2 cm Muck (A10		/)
	pipedon (A2)						/ILRA 147,	148) (Coast Prairie Re	, ,	
Black His					rface (S9)		147, 148)	_	(MLRA 147,		- 40)
	n Sulfide (A4)				d Matrix (F2)		<u> </u>	Piedmont Flood		-19)
	Layers (A5)			leted Mat		·c)		,	(MLRA 136,		TE40)
	ck (A10) (LRR N) d Below Dark Surface	(//11)			Surface (F k Surface				√ery Shallow Da Other (Explain i		1 - 12)
	ark Surface (A12)	(A11)			ssions (F			_ `	otilei (Explaii) i	ii Neiliaiks)	
	lucky Mineral (S1) (L	RR N			ese Masse		IRRN				
	147, 148)	,		ILRA 13		00 (1 12) (
	leyed Matrix (S4)				ce (F13) (MLRA 13	36, 122)	³ Inc	dicators of hydr	ophytic vege	tation and
	edox (S5)						(MLRA 14		etland hydrolog		
	Matrix (S6)						A 127, 147		nless disturbed		
	ayer (if observed):				(1	, (,	1			
Type:	, , , , , , , , , , , , , , , , , , , ,										
	ches):							Hydric Soi	I Present?	/es	No ✓
								Tiyane oo	TTTC3CIIC: I		140
Remarks:	oil indicators al	neant.	naramai	er lac	kina						
riyano se	in indicators a	Journe,	parame	ici iac	mig.						

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04
	State: Kentucky Sampling Point: DP-023
	Section, Township, Range: N/A
	cal relief (concave, convex, none): Concave Slope (%): 0-2
· · · · · · · · · · · · · · · · · · ·	4 Long: -86.983715 Datum: NAD83
Soil Map Unit Name: Wellston silt loam, 6 to 12 percent	
Are climatic / hydrologic conditions on the site typical for this time of year	-
	disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally pr	
	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes ✓ No Remarks:	
1 .	etrine forested (PFO) wetland. The lead delineator edent Precipitation Tool (APT) and determined that of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic P	
✓ High Water Table (A2) Hydrogen Sulfi	
	spheres on Living Roots (C3) Moss Trim Lines (B16)
	educed Iron (C4) Dry-Season Water Table (C2) eduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Sur	
Algal Mat or Crust (B4) Other (Explain	
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
✓ Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches	
Water Table Present? Yes <u>√</u> No Depth (inches): <u>3</u>
Saturation Present? Yes ✓ No Depth (inches): 0 Wetland Hydrology Present? Yes _ ✓ No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	
At least one primary or two secondary indicate	rs observed; parameter met.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-023
	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)		Species?		Number of Dominant Species
1. Platanus occidentalis	20	<u>Y</u>	FACW	That Are OBL, FACW, or FAC: 4 (A)
2. Liquidambar styraciflua	<u>15</u>	<u>Y</u>	FAC	Total Number of Dominant
3. Acer saccharum	5	<u>N</u>	FACU	Species Across All Strata:5 (B)
4. Ulmus alata	5	N	FACU	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 80.00 (A/B)
6				
7				Prevalence Index worksheet:
	45.0	= Total Cove	er	Total % Cover of: Multiply by:
50% of total cover: <u>22.5</u>	20% of	total cover:	9.0	OBL species 15.00 x 1 = 15.00
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species 20.00 x 2 = 40.00
1. No rooted saplings/shrubs present				FAC species $20.00 \times 3 = 60.00$
2				FACU species 10.00 x 4 = 40.00
3				UPL species <u>5.00</u> x 5 = <u>25.00</u>
4				Column Totals:
5				Prevalence Index = B/A = 2.57
6				
7				Hydrophytic Vegetation Indicators:
8				1 - Rapid Test for Hydrophytic Vegetation
9.				✓ 2 - Dominance Test is >50%
	0	= Total Cove	er	✓ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0	20% of	total cover:	0.0	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size:5' radius)				data in Remarks or on a separate sheet)
1. Packera glabella	15	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Lamium purpureum	5	Y	UPL	4
3. Ranunculus sardous	5	Y	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Definitions of Four Vegetation offata.
6.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7.				more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Have All barbagas (non woods) plants regardless
	25.0	= Total Cove	<u></u>	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:12.5				
Woody Vine Stratum (Plot size: 30' radius)	_		_	Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				noight.
2.				
3				
4				
5.				Hydrophytic
o	0	= Total Cove		Vegetation Present?
50% of total cover: 0.0		total cover:		
Remarks: (Include photo numbers here or on a separate si				
Indicator 2 (Dominance Test) present w	ith grea	iter than	50% o	f dominant species FAC or wetter;

parameter met. Prevalence Index calculated for reference purposes only.

Profile Desc	cription: (D	escribe t	o the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	e of indica	tors.)		
Depth	Matrix Redox Features												
(inches)	Color (ı		%	Color (r	noist)	<u>%</u>	Type ¹	Loc ²	Texture	_	Rema	arks	
0-7	10YR	4/2	50	7.5YR	5/8	50	С	M/PL	SIL				
7-13	10YR	4/2	45	7.5YR	5/8	50	С	М	SIL				
	10YR	2/1	5			. <u></u> _			SIL	_			
13-18	10YR	2/1	3	10YR	6/8	3	С	М	SIL	_			
	10YR	6/1	94						SIL				
	10111	0/ 1							OIL				
	-			-			-		-				
-				-			-	·	-				
				_									
¹ Type: C=C			etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.	² Location:				. 3
Hydric Soil	Indicators:								Indi	cators for l	Problemat	ic Hydric S	oils°:
Histosol					k Surface					2 cm Muck			
Histic Ep	pipedon (A2	2)					. , .	/ILRA 147,	148)	Coast Prair	,	(A16)	
	istic (A3)					ırface (S9)		147, 148)			47, 148)		
	en Sulfide (A					ed Matrix (I	F2)			Piedmont F		Soils (F19)	
	d Layers (A				leted Ma					•	36, 147)		
	uck (A10) (L					Surface (F				•		ırface (TF12)
	d Below Da		(A11)			rk Surface				Other (Exp	ain in Ren	narks)	
	ark Surface		DD N			essions (F8		I DD N					
	Nucky Miner		RR N,			ese Masse	es (F12) (LRR N,					
	A 147, 148)				MLRA 13	•	MI DA 46	0 400)	31.	d'a ataua at	la a sala a sa la saɗ		
	Bleyed Matri	IX (54)				ice (F13) (c vegetation	l II
	Redox (S5)							(MLRA 14				st be present	,
	Matrix (S6)			Rec	Parent	/laterial (F2	21) (IVILR	A 127, 147) (nless distu	bea or pro	blematic.	
Restrictive	Layer (if ob	servea):											
Type:				<u></u>								/	
Depth (in	ches):			<u></u>					Hydric So	il Present?	Yes _	✓ No	
Remarks:	مانات مانم	.to"	/Dank	otod 1/10	4 with 1 10 m				-4				
Hydric so	JII IIIUICa	aloi rs	(рері	eted ivia	uix) pi	esent,	paran	ietei iii	el.				

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-024
	Section, Township, Range: N/A
	Local relief (concave, convex, none): Convex Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.11	13740 Long: -86.983656 Datum: NAD83
Soil Map Unit Name: Wellston silt loam, 6 to 12 per	rcent slopes, severely eroded NWI classification: None
Are climatic / hydrologic conditions on the site typical for this tim	ne of year? Yes No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology signif	ificantly disturbed? Are "Normal Circumstances" present? Yes✓_ No
	rally problematic? (If needed, explain any answers in Remarks.)
	owing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	is the Sampled Area
Wetland Hydrology Present? Yes No	WILLIIII A VICUALIU: 165 NO V
Remarks:	and an artifact the definition of the first transfer of
	not considered a definitional wetland. The lead delineator
_	Antecedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the t	lime of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	apply) Surface Soil Cracks (B6)
Surface Water (A1) True Aq	quatic Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydroge	en Sulfide Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized	d Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presenc	ce of Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent I	Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
	uck Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (E	Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _ ✓ Depth (· , ———
Water Table Present? Yes No ✓ Depth (
Saturation Present? Yes No _ ✓ Depth ((includes capillary fringe)	(inches): Wetland Hydrology Present? Yes No_ ✓
Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspections), if available:
Remarks:	
Indicators of wetland hydrology absent; pa	arameter lacking.

/EGETATION (Four Strata) – Use scientific r	names of	plants.		Sampling Point: DP-024
	Absolute	Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)		Species?		Number of Dominant Species
1. Liquidambar styraciflua	25	<u> </u>	FAC	That Are OBL, FACW, or FAC:1 (A)
2			-	Total Number of Dominant
3				Species Across All Strata:3 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 33.33 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
50% ()		= Total Cov		OBL species 0.00 x 1 = 0.00
50% of total cover: 12.	20% 01	r total cover:	5.0	FACW species 0.00 $\times 2 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				FAC species $25.00 \times 3 = 75.00$
		·		FACU species 25.00 x 4 = 100.00
2		·		UPL species $40.00 \times 5 = 200.00$
3				Column Totals: 90.00 (A) 375.00 (B)
4		· ———		Column Totals. Series (A) Series (B)
5				Prevalence Index = $B/A = 4.17$
6		· ———		Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9		·		3 - Prevalence Index is ≤3.0 ¹
50% of total access 0.6		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0 Herb Stratum (Plot size: 5' radius)	20% 01	r total cover:	0.0	data in Remarks or on a separate sheet)
11010 011010111 (1 101 0120	30	V	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Lamium purpureum	15	- <u>Y</u> Y	FACU	
2. Trifolium repens		. ——		¹ Indicators of hydric soil and wetland hydrology must
3. Erigeron philadelphicus	10	<u>N</u>	FACU	be present, unless disturbed or problematic.
4. Stellaria media	10	<u>N</u>	UPL	Definitions of Four Vegetation Strata:
5		· ———		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		· ——		more in diameter at breast height (DBH), regardless of
7				height.
8	-	·		Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10		· ——		m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
50% ()		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>32.</u>	<u>5</u> 20% of	total cover:	13.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)				height.
1. No rooted vines present	-	· ——		
2				
3				
4		· ———		Hydrophytic
5	^			Vegetation Present? Yes No✓
500/ (1.1.)		= Total Cov		riesent? TesNo
50% of total cover:0.0		total cover:	0.0	
Remarks: (Include photo numbers here or on a separate s		ramatar	lacking	
Indicators of hydrophytic vegetation ab	ѕепі, ра	rameter	iacking	J.

Profile Desc	ription: (Describe t	o the dep	th needed to do	cument the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix		Re	edox Features	S				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remark	ks
0-16	10YR 4/4	100							
			40VD E/G			N./	CII		
16-18	10YR 4/4	_50_	10YR 5/6	50	C	M	SIL		
									 -
¹ Type: C=Co	oncentration, D=Depl	etion, RM:	=Reduced Matrix,	MS=Masked	Sand Gr	ains.	² Location: Pl	L=Pore Lining, M=Mati	rix.
Hydric Soil								ators for Problematic	
Histosol			Dark Surfa	ace (S7)				cm Muck (A10) (MLR	
	pipedon (A2)			Below Surfa	ce (S8) (N	II RA 147.		Coast Prairie Redox (A1	
Black Hi				Surface (S9)			140, 0	(MLRA 147, 148)	10)
	n Sulfide (A4)			eyed Matrix (141, 140)	Р	riedmont Floodplain So	nils (F19)
	d Layers (A5)			Matrix (F3))		<u> </u>	(MLRA 136, 147)) (1 10)
	ick (A10) (LRR N)			rk Surface (F	6)		V	ery Shallow Dark Surfa	ace (TF12)
	d Below Dark Surface	(A11)		Dark Surface				other (Explain in Remai	
	ark Surface (A12)	, (, , , , ,		pressions (F				ther (Explain in Remai	ino)
	lucky Mineral (S1) (L	RR N		janese Mass		I RR N			
	\ 147, 148)		MLRA		00 (1 12) (
	Gleyed Matrix (S4)		Umbric St		MIRA 13	6 122)	3Ind	icators of hydrophytic	vegetation and
	ledox (S5)			Floodplain S				etland hydrology must b	-
	Matrix (S6)			nt Material (F				less disturbed or proble	
	_ayer (if observed):		11001 a101	it waterial (i	21) (IVILIX	A 121, 141	1	cos disturbed of proble	Citiatio.
	Layer (II observed).								
Type:									,
Depth (inc	ches):						Hydric Soil	Present? Yes	No <u>√</u> _
Remarks:									
Hydric so	oil indicators al	osent;	parameter la	acking.					
_									

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04
Applicant/Owner: Lost Clty Renewables, LLC	State: Kentucky Sampling Point: DP-025
	Section, Township, Range: N/A
	Local relief (concave, convex, none): Concave Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.110	D295 Long: <u>-86.982876</u> Datum: NAD83
Soil Map Unit Name: Wellston silt loam, 6 to 12 per	rcent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology signific	,
Are Vegetation, Soil, or Hydrology natura	
	wing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland? Yes No✓
Wetland Hydrology Present? Yes No	within a Wetland? Yes No
Remarks:	the second secon
,	ot considered a definitional wetland. The lead delineator
S S	ntecedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the tir	ne of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	pply) Surface Soil Cracks (B6)
Surface Water (A1) True Aqua	atic Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen	Sulfide Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized I	Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence	of Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iro	on Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Much	k Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Ex	plain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ _ Depth (in	
Water Table Present? Yes No ✓ Depth (in	
Saturation Present? Yes No ✓ Depth (in (includes capillary fringe)	nches): Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspections), if available:
Remarks:	
No primary and only one secondary indicat	for of wetland hydrology present; parameter lacking.
l l l l l l l l l l l l l l l l l l l	er e

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-025
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. Acer saccharum	45	<u>Y</u>	<u>FACU</u>	That Are OBL, FACW, or FAC: 0 (A)
2. Quercus alba	15	Y	FACU	Total Number of Dominant
3		. <u></u>		Species Across All Strata: 4 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)
6				That Aid OBE, I AOW, OI I AO.
7.				Prevalence Index worksheet:
	60.0	= Total Cove	er	Total % Cover of: Multiply by:
50% of total cover: <u>30.0</u>				OBL species $0.00 \times 1 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)		· •	<u>.</u>	FACW species <u>0.00</u> x 2 = <u>0.00</u>
1. No rooted saplings/shrubs present				FAC species $0.00 \times 3 = 0.00$
2				FACU species
3				UPL species 0.00 x 5 = 0.00
				Column Totals: 70.00 (A) 280.00 (B)
4				
5				Prevalence Index = B/A = 4.0
6				Hydrophytic Vegetation Indicators:
7		·		1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9		·		3 - Prevalence Index is ≤3.0 ¹
		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)	_		=	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Cardamine concatenata		<u>Y</u>	FACU	Troblematic Tryanophytic Vegetation (Explain)
2. Podophyllum peltatum	5	Y	FACU	¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Hauk All haukasassa (saa susada) ulanta usundlasa
	10.0	= Total Cove	er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:5.0				
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				noight.
2				
3				
4				
				Hydrophytic
5	_			Vegetation Present? Yes No _ ✓
50% of total cover: <u>0.0</u>		= Total Cover		
		total cover.	0.0	
Remarks: (Include photo numbers here or on a separate sl Indicators of hydrophytic vegetation abs		rameter	lacking	1
indicators of flydropflytto vegetation abs	ont, pa	idiliotoi	idokiiig	j·

Profile Desc	ription: (Describe	to the depth	n needed to docun	nent the i	ndicator	or confirm	the absence	of indicat	ors.)		
Depth	Matrix		Redox	k Features	6						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	ks	
0-8	10YR 4/3	100					SIL				
						-		· -			
8-18	10YR 4/4	100					SIL				
			_								
											<u> </u>
								· 			
¹Type: C=Co	oncentration, D=Depl	etion. RM=F	Reduced Matrix. MS	S=Masked	Sand Gra	ins.	² Location: F	PL=Pore Lin	ing. M=Mat	rix.	
Hydric Soil I			,,						roblematic		oils³:
Histosol			Dark Surface	(97)					(A10) (MLR	-	
	oipedon (A2)		Polyvalue Be		o (CO) /M	I D A 447			e Redox (A		
							140) (,	10)	
Black His			Thin Dark Su			47, 148)		(MLRA 1		''- (540)	
	n Sulfide (A4)		Loamy Gleye		-2)		'		loodplain So	DIIS (F19)	
	Layers (A5)		Depleted Mat		-\			(MLRA 1		(== 10)	
	ick (A10) (LRR N)	(* 4 4)	Redox Dark S						w Dark Surf)
	Below Dark Surface	e (A11)	Depleted Dar				(Other (Expla	ain in Rema	rks)	
	ark Surface (A12)		Redox Depre								
	lucky Mineral (S1) (L	.RR N,	Iron-Mangane		es (F12) (I	RR N,					
	\ 147, 148)		MLRA 130	•			3				
	lleyed Matrix (S4)		Umbric Surfa						nydrophytic	-	
	edox (S5)		Piedmont Flo						ology must		,
	Matrix (S6)		Red Parent M	faterial (F	21) (MLR	4 127, 147)) ur	nless disturb	ped or probl	ematic.	
Restrictive L	_ayer (if observed):										
Type:											
Depth (inc	ches):						Hydric Soi	I Present?	Yes	No	1
Remarks:							,				
	oil indicators a	heant: n	arameter lac	kina							
riyunc sc	ni indicators a	psent, p	arameter iac	kii ig.							

Project/Site: Lost City Solar	City/County: Mul	nlenberg County Sa	ampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-026
Investigator(s): M. Herod, S. Davis	Section, Township		
Landform (hillslope, terrace, etc.): Depression	Local relief (concave,	convex, none): Concave	Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 3	7.110879	Long: <u>-86.983866</u>	Datum: NAD83
Soil Map Unit Name: Clifty gravelly silt loam, 0 to 2	percent slopes, occasion	nally flooded NWI classification	on: None
Are climatic / hydrologic conditions on the site typical for th	is time of year? Yes✓ N	lo (If no, explain in Rem	arks.)
Are Vegetation, Soil, or Hydrology			_
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site map			
Hydrophytic Vegetation Present? Yes I	No. 1		
Hydric Soil Present? Yes 1	is the Samp		No. of
Wetland Hydrology Present? Yes 1		etiano? fes	NO <u>Y</u>
Remarks:	2 (1 1	1. C. C	. I I. I.P
One or more parameters lacking; area			
conducted a due diligence review of th		itation Tool (APT) and	determined that
hydrologic conditions were normal at the	ie time of survey.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators	s (minimum of two required)
Primary Indicators (minimum of one is required; check all	that apply)	Surface Soil Cra	icks (B6)
Surface Water (A1) Tru	ie Aquatic Plants (B14)	Sparsely Vegeta	ated Concave Surface (B8)
High Water Table (A2) Hyd	drogen Sulfide Odor (C1)	Drainage Patter	ns (B10)
	idized Rhizospheres on Living F	Roots (C3) Moss Trim Lines	s (B16)
	esence of Reduced Iron (C4)	Dry-Season Wa	ter Table (C2)
	cent Iron Reduction in Tilled So		
	n Muck Surface (C7)		le on Aerial Imagery (C9)
	ner (Explain in Remarks)	Stunted or Stres	
Iron Deposits (B5)		✓ Geomorphic Pos	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitare	
Water-Stained Leaves (B9)		Microtopographi	
Aquatic Fauna (B13)		FAC-Neutral Te	st (D5)
Field Observations: Surface Water Present? Yes No _✓ De	anth (inches):		
Water Table Present? Yes No _✓ _ De			
Saturation Present? Yes No _✓ _ De		Wetland Hydrology Present?	Vos No ✓
(includes capillary fringe)	,		165 NO
Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspect	ions), if available:	
Remarks:			
No primary and only one secondary in	dicator of wetland hy	drology present; parar	neter lacking.
1			

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-026
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Persont of Deminent Charles
5				Percent of Dominant Species That Are OBL, FACW, or FAC:
6				
7				Prevalence Index worksheet:
	0	= Total Cove	er	Total % Cover of: Multiply by:
50% of total cover: 0.0	20% of	total cover:	0.0	OBL species 0.00 $\times 1 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species 0.00 x 2 = 0.00
1. No rooted saplings/shrubs present				FAC species 0.00 x 3 = 0.00
2				FACU species15.00 x 4 =60.00
3				UPL species <u>75.00</u> x 5 = <u>375.00</u>
4				Column Totals: 90.00 (A) 435.00 (B)
5				Dravialance Index D/A 192
6				Prevalence Index = B/A = 4.83
7				Hydrophytic Vegetation Indicators:
8				1 - Rapid Test for Hydrophytic Vegetation
9.				2 - Dominance Test is >50%
<u> </u>	0	= Total Cove	er	3 - Prevalence Index is ≤3.0 ¹
50% of total cover:0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)		-	<u> </u>	data in Remarks or on a separate sheet)
1. Lamium purpureum	60	Υ	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Dichanthelium laxiflorum	15	N	FACU	
3. Stellaria media	15	N	UPL	¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Four Vegetation Strata:
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
_				more in diameter at breast height (DBH), regardless of height.
7				neight.
8 9.				Sapling/Shrub – Woody plants, excluding vines, less
•				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				m) tall.
11	00.0	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 45.0				of size, and woody plants less than 5.20 it tall.
Woody Vine Stratum (Plot size:30' radius)	2070 01		10.0	Woody vine – All woody vines greater than 3.28 ft in
1. No rooted vines present				height.
· ·				
2				
4				
				Hydrophytic
5	_	= Total Cove		Vegetation Present? Yes No ✓
50% of total cover: 0.0				
Remarks: (Include photo numbers here or on a separate sl		total cover.	0.0	
Indicators of hydrophytic vegetation abs		rameter	lacking].
	, p = 0			y -

Depth	Matrix		needed to document the indicator or confi		
inches)	Color (moist)	%	Color (moist) % Type ¹ Loc ²		Remarks
0-18	10YR 4/4	100		_ SIL	_
	-			_	
				_	
	-				_
					<u> </u>
				_	
		oletion, RM=R	leduced Matrix, MS=Masked Sand Grains.		PL=Pore Lining, M=Matrix.
dric Soil I	ndicators:			Indi	cators for Problematic Hydric Soils ³ :
_ Histosol	(A1)		Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)
_ Histic Ep	pipedon (A2)		Polyvalue Below Surface (S8) (MLRA 14	7, 148)	Coast Prairie Redox (A16)
_ Black His			Thin Dark Surface (S9) (MLRA 147, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19)
	I Layers (A5)		Depleted Matrix (F3)		(MLRA 136, 147)
_	ck (A10) (LRR N)	(* (*)	Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)
	Below Dark Surface	e (A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)
	ark Surface (A12)	LDDN	Redox Depressions (F8)		
	lucky Mineral (S1) (LKK N,	Iron-Manganese Masses (F12) (LRR N,		
	147, 148) sleyed Matrix (S4)		MLRA 136)	315	ndicators of hydrophytic vegetation and
	edox (S5)		Umbric Surface (F13) (MLRA 136, 122)Piedmont Floodplain Soils (F19) (MLRA		vetland hydrology must be present,
	Matrix (S6)		Red Parent Material (F21) (MLRA 127, 1		unless disturbed or problematic.
	ayer (if observed)		Neu Falent Waterial (F21) (MENA 121, 1	47)	inless disturbed of problematic.
	Layer (II Observed)	•			
Type:			_		
Depth (inc	ches):		<u> </u>	Hydric So	oil Present? Yes No _✓

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-04
Applicant/Owner: Lost Clty Renewables, LLC	State: Kentucky Sampling Point: DP-027
	Section, Township, Range: N/A
• , ,	Local relief (concave, convex, none): Concave Slope (%): 0-2
· · · · · · · · · · · · · · · · · · ·	06 Long: <u>-</u> 86.981066 Datum: NAD83
,	cent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of	_
Are Vegetation, Soil, or Hydrology significan	
Are Vegetation, Soil, or Hydrology naturally	
	ng sampling point locations, transects, important features, etc.
Lhydrophytic Vagetation Dracent2	
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No	is the Sampled Area
Wetland Hydrology Present? Yes ✓ No	Within a Wetland: 165 V 140
Remarks:	
	ustrine emergent (PEM) wetland. The lead delineator
conducted a due diligence review of the Ante	ecedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the time	e of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
Surface Water (A1) True Aquatic	
	ulfide Odor (C1) Drainage Patterns (B10)
	izospheres on Living Roots (C3) Moss Trim Lines (B16)
	Reduced Iron (C4) Dry-Season Water Table (C2)
✓ Sediment Deposits (B2) Recent Iron I	Reduction in Tilled Soils (C6)
Drift Deposits (B3) Thin Muck S	
Algal Mat or Crust (B4) Other (Expla	
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ Depth (inche	
Water Table Present? Yes No ✓ Depth (inches	
Saturation Present? Yes No ✓ Depth (inche (includes capillary fringe)	es): Wetland Hydrology Present? Yes _ ✓ No
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks:	
At least one primary or two secondary indicate	tors observed; parameter met.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-027
		Dominant I		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted vines present				That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				
		= Total Cove		
50% of total cover: 0.0	20% of	total cover:_	0.0	
Sapling/Shrub Stratum (Plot size: 15' radius)				5.00
1. No rooted saplings/shrubs present	-			
2				FACU species 0.00 $x = 0.00$
3				UPL species $0.00 \times 5 = 0.00$
4				Column Totals: <u>80.00</u> (A) <u>150.00</u> (B)
5				Prevalence Index = B/A = 1.88
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0 ¹
	0:	= Total Cove	r	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:_	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)				
1. Juncus effusus	60	<u> </u>	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Carex crinita	15	N	OBL	The disease of hooding on it and continued by declarations
3. Ranunculus bulbosus	5	N	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Horb. All harbacous (non woody) plants, regardless
	80.0	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:40.0				W 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				g.m
2				
3				
4				
5				Hydrophytic Vegetation
		= Total Cove		Present? Yes _ ✓ No
50% of total cover: <u>0.0</u>				
Remarks: (Include photo numbers here or on a separate sl		_		1
Indicator 1 (Rapid Test) present with all		nt enocia	00 E //	CW or OBI : parameter mot
` ' ' '		•		• •
Dominance Test and Prevalence Index	JaiCulat	eu ioi ie	ierenc	e purposes orny.

	ription: (ט	escribe t	o the dep	tn neeaea	to docui	nent the ii	ndicator	or confirm	the absend	ce of indicators.	.)	
Depth		Matrix			Redo	x Features						
(inches)	Color (r		%	Color (r	noist)	<u>%</u>	_Type ¹	Loc ²	Texture	<u> </u>	Remarks	
0-2	10YR	4/2	100						SICL			
2-8	10YR	4/2	95	10YR	5/8	5	С	M/PL	SICL	_		
8-12	10YR	4/2	85	10YR	5/8	14	C	M	SICL			
-												
12-18	10YR	4/2	<u>70</u>	<u>10YR</u>	5/8	25	C	<u> </u>	SICL	_		
	<u>10YR</u>	2/1	5					· ——	SICL	_		
										<u> </u>		
										_		
								·		_		
										_		
¹Type: C=Co			etion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		PL=Pore Lining,		2 11 3
Hydric Soil I									Indi	cators for Prob	_	Soils":
Histosol					k Surface		(00) (1			2 cm Muck (A10		
	oipedon (A2)						/ILRA 147,	148)	Coast Prairie Re		
Black Hi	stic (A3) n Sulfide (A	. 4\				rface (S9) d Matrix (I		147, 148)		(MLRA 147, 7) Piedmont Flood		`
	d Layers (At	,		·	oleted Ma	•	-2)		_	(MLRA 136,)
	ick (A10) (L					Surface (F	6)			Very Shallow Da	•	12)
	d Below Dar		(A11)			k Surface	•		_	Other (Explain in		12)
	ark Surface		,			ssions (F8				` '	,	
	lucky Miner		RR N,			ese Masse		LRR N,				
MLRA	147, 148)				MLRA 13							
Sandy G	Sleyed Matri	x (S4)				ce (F13) (ndicators of hydro	ophytic vegetati	on and
	tedox (S5)							(MLRA 14		wetland hydrolog	y must be prese	ent,
	Matrix (S6)			Red	Parent N	/laterial (F	21) (MLR	A 127, 147	΄) ι	unless disturbed	or problematic.	
Restrictive I	∟ayer (if ob	served):										
	• •	,										
Туре:												
Type: Depth (ind									Hydric Sc	oil Present? Y	′es <u>√</u> N	o
Depth (inc	ches):			<u> </u>						oil Present? Y	′es <u>√</u> N	o
Depth (inc	ches):		(Deple	eted Ma	trix) pr	esent;	paran	neter me		oil Present? Y	′es <u>√</u> N	o
Depth (inc	ches):		(Deple	eted Ma	trix) pr	esent;	paran	neter me		oil Present? Y	∕es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	esent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	esent;	param	neter me		oil Present? Y	′es <u>√</u> N	o
Depth (inc	ches):		(Deple	eted Ma	trix) pr	esent;	paran	neter me		oil Present? Y	′es <u>√</u> N	o
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	o
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	res <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	res <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	res <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0
Depth (inc	ches):		(Deple	eted Ma	trix) pr	resent;	paran	neter me		oil Present? Y	′es <u>√</u> N	0

Project/Site: Lost City Solar	City/County: Mul	hlenberg County s	Sampling Date: 2024-04-03
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-028
Investigator(s): M.Herod, S.Davis	Section, Township	<u> </u>	
	Local relief (concave,		Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat:	37.105434	Long: <u>-</u> 86.979797	Datum: NAD83
Soil Map Unit Name: Wellston silt loam, 12 to		•	ion: None
Are climatic / hydrologic conditions on the site typical for	_		
Are Vegetation, Soil, or Hydrology		Are "Normal Circumstances" pre	
Are Vegetation, Soil, or Hydrology		(If needed, explain any answers	
SUMMARY OF FINDINGS – Attach site ma			
Hydrophytic Vegetation Present?	No/		
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No. /		/
Wetland Hydrology Present? Yes	WILLIIII G VV	etland? Yes	No <u>√</u>
Remarks:			
One or more parameters lacking; are			
conducted a due diligence review of	the Antecedent Precip	itation Tool (APT) and	d determined that
hydrologic conditions were normal at	the time of survey.		
HYDROLOGY			
Wetland Hydrology Indicators:		<u></u>	rs (minimum of two required)
Primary Indicators (minimum of one is required; check		Surface Soil Cr	
	True Aquatic Plants (B14)		tated Concave Surface (B8)
	Hydrogen Sulfide Odor (C1)	Drainage Patte	
	Oxidized Rhizospheres on Living		
	Presence of Reduced Iron (C4)	Dry-Season Wa	
	Recent Iron Reduction in Tilled Sc		
	Thin Muck Surface (C7) Other (Explain in Remarks)		ble on Aerial Imagery (C9)
Algal Mat or Crust (B4) (Iron Deposits (B5)	Julei (Explain in Remarks)	Stanted of Stre	essed Plants (D1)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquita	
Water-Stained Leaves (B9)		Microtopograph	
Aquatic Fauna (B13)		FAC-Neutral Te	
Field Observations:		<u> </u>	
	Depth (inches):		
	Depth (inches):		
_	Depth (inches):	Wetland Hydrology Present?	P Yes No✓
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring w		tions) if available:	
Describe Recorded Data (Stream gauge, monitoring w	eli, aeriai priotos, previous irispec	tions), ii avallable.	
Remarks: Indicators of wetland hydrology abse	ent: parameter lacking		
indicators of wetland hydrology abse	ini, parameter lacking.		
1			

/EGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: DP-028
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present		·		That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3		·		Species Across All Strata:1 (B)
4				Percent of Dominant Species
5		·		That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		OBL species 2.00 x 1 = 2.00
50% of total cover: 0.0	20% of	total cover:_	0.0	FACW species $0.00 \times 2 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				FAC species 5.00 x 3 = 15.00
		·		FACU species 0.00 x 4 = 0.00
2				100.00
3				
4				Column Totals: 91.00 (A) 437.00 (B)
5				Prevalence Index = B/A = 4.8
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0¹
		= Total Cove		4 - Morphological Adaptations¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:_	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)				Problematic Hydrophytic Vegetation (Explain)
1. Stellaria media	80	<u> </u>	UPL	Problematic Hydrophytic Vegetation (Explain)
2. Ranunculus sardous	5	N	FAC	The disease of headring and continued be advantaged
3. Lamium amplexicaule	2	N	UPL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Lamium purpureum	2	N	UPL	Definitions of Four Vegetation Strata:
_{5.} Packera glabella	2	N	OBL	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Harb All back assess (see see al.) also (see assess)
	91.0	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>45.5</u>				
Woody Vine Stratum (Plot size: 30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				noight.
2				
3		· · · · · · · · · · · · · · · · · · ·		
4				
5				Hydrophytic Vegetation
<u>. </u>	_	= Total Cove		Present? Yes No✓
50% of total cover: 0.0				
Remarks: (Include photo numbers here or on a separate s				
Indicators of hydrophytic vegetation abs		rameter	lacking	J.
, : : i , ; : : : : : : : : : : : : : : : : : :	-, F-3			,

Depth							the abso		,		
	Matrix		Redo	k Features	;						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textu	re	Rema	rks	
0-4	10YR 3/4	100					SIL				
4-18	10YR 4/3	100					SIC	<u> </u>			
	•	·									
-								· · · · · · · · · · · · · · · · · · ·			
¹ Type: C=C	oncentration, D=Dep	letion. RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ins.	² Locatio	n: PL=Pore L	ining, M=Ma	trix.	
Hydric Soil								ndicators for			oils³:
Histosol			Dark Surface	(97)					(A10) (MLF	-	
	oipedon (A2)		Polyvalue Be		o (CO) /M	I D A 147	140)		rie Redox (A		
							140)		•	(10)	
Black Hi			Thin Dark Su			47, 148)			147, 148)	-11- (540)	
	en Sulfide (A4)		Loamy Gleye		-2)		-		Floodplain S	olis (F19)	
	d Layers (A5)		Depleted Mar		->			•	136, 147)	. (==.0)	
	ick (A10) (LRR N)	(* 4 4)	Redox Dark				-		ow Dark Sur		
	d Below Dark Surface	e (A11)	Depleted Dar				-	Other (Exp	olain in Rema	arks)	
	ark Surface (A12)		Redox Depre								
	lucky Mineral (S1) (L	.RR N,	Iron-Mangan		s (F12) (I	_RR N,					
	\ 147, 148)		MLRA 13	•							
	Sleyed Matrix (S4)		Umbric Surfa					³ Indicators of		-	
	Redox (S5)		Piedmont Flo					wetland hyd	Irology must	be present,	
Strippod	Matrix (S6)		Red Parent N	1aterial (F2	21) (MLR	4 127, 147	7)	unless distu	irbed or prob	lematic.	
Suilphed											
	Layer (if observed):										
Restrictive I											
Restrictive I	Layer (if observed):						Hydric	Soil Present	? Yes	No	1
Type: Depth (inc							Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	kina			Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (inc	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (inc	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (inc	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (inc	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (inc	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (inc	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (inc	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (inc	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓_
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓
Restrictive I Type: Depth (income Remarks:	Layer (if observed):		_	king.			Hydric	Soil Present	? Yes	No _	✓

Project/Site: Lost City Solar City	//County: Muhlenberg County Sampling Date: 2024-04-04
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-029
Investigator(s): M.Herod, S.Davis Se	
• , ,	relief (concave, convex, none): Concave Slope (%): 0-2
· · · · · · · · · · · · · · · · · · ·	Long: -86.982181 Datum: NAD83
Soil Map Unit Name: Clifty gravelly silt loam, 0 to 2 percent slop	
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 dis	,
Are Vegetation, Soil, or Hydrology naturally proble	
	ampling point locations, transects, important features, etc.
Lhydrophytic Vagetation Dragant2	
Hydrophytic Vegetation Present? Yes ✓ No Yes No No No	Is the Sampled Area
Wetland Hydrology Present? Yes ✓ No	within a Wetland? Yes No
Remarks:	
	ne emergent (PEM) wetland. The lead delineator
_	ent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the time of	survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
✓ Surface Water (A1) True Aquatic Plant	
✓ High Water Table (A2) — Hydrogen Sulfide (
	eres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduc	
	tion in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface	
Algal Mat or Crust (B4) Other (Explain in F	
✓ Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)
Field Observations:	<u></u> · · · · · · · · · · · · · · · · · ·
Surface Water Present? Yes _ ✓ No Depth (inches): 4	
Water Table Present? Yes ✓ No Depth (inches): 0	
Saturation Present? Yes ✓ No Depth (inches): 0	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, page 10 per page 12	previous inspections), if available:
Remarks:	
At least one primary or two secondary indicators	observed; parameter met.

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-029
	Absolute	Dominant	Indicator	Dominance Test worksheet:
	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				
7				Prevalence Index worksheet:
	0 :	= Total Cove	er	Total % Cover of: Multiply by:
50% of total cover: 0.0	20% of	total cover:_	0.0	OBL species x 1 = 15.00
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species $25.00 \times 2 = 50.00$
1. No rooted saplings/shrubs present				FAC species x 3 = 45.00
2				FACU species $0.00 \times 4 = 0.00$
3				UPL species
4				Column Totals: <u>55.00</u> (A) <u>110.00</u> (B)
5				5 1 1 50 20
6				Prevalence Index = B/A = 2.0
7				Hydrophytic Vegetation Indicators:
8.				1 - Rapid Test for Hydrophytic Vegetation
9.		-		✓ 2 - Dominance Test is >50%
<u>. </u>	0 :	= Total Cove		✓ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)				data in Remarks or on a separate sheet)
1. Juncus effusus	25	Υ	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ranunculus bulbosus	15	Y	FAC	
3, Carex crinita	10		OBL	¹ Indicators of hydric soil and wetland hydrology must
4. Packera glabella	5	N	OBL	be present, unless disturbed or problematic.
			ODL	Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9		-		than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>27.5</u>	20% of	total cover:_	11.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:30' radius)				height.
1. No rooted vines present				
2				
3				
4				Hydrophytic
5				Vegetation
	0 :	= Total Cove	er	Present? Yes No
50% of total cover: 0.0	20% of	total cover:_	0.0	
Remarks: (Include photo numbers here or on a separate si Indicator 2 (Dominance Test) present wi parameter met. Prevalence Index calcul	ith grea			•

Depth Matrix Great Features Greatures Great	Profile Desc	ription: (D	escribe t	o the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	ce of indicators.)			
Color (moist)	Depth		Matrix			Redo	x Features	3		,				
0-6 10 YR 4/2 60 10 YR 3/6 40 C M/PL SICL 14-18 10 YR 4/2 75 10 YR 3/6 25 C M SICL 14-18 10 YR 4/2 85 10 YR 3/6 15 C M SICL 14-18 10 YR 4/2 85 10 YR 3/6 15 C M SICL 14-18 10 YR 4/2 85 10 YR 3/6 15 C M SICL 14-18 10 YR 4/2 85 10 YR 3/6 15 C M SICL 14-18 10 YR 4/2 85 10 YR 3/6 15 C M SICL 14-18 10 YR 4/2 85 10 YR 3/6 15 C M SICL 15-20				%	Color (r	noist)		Type ¹	Loc ²	Texture	Remarks			
14-18 10YR 4/2 85 10YR 3/6 15 C M SICL Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.				60			40	С		SICL				
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1	6-14	10YR	4/2	75	10YR	3/6	25	С	M	SICL				
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1	14-18	10YR	4/2	85	10YR	3/6	15	С	М	SICL				
Hydric Soil Indicators: Histosol (A1)		10111				0,0					_			
Hydric Soil Indicators: Histosol (A1)														
Hydric Soil Indicators: Histosol (A1)														
Hydric Soil Indicators: Histosol (A1)														
Hydric Soil Indicators: Histosol (A1)														
Hydric Soil Indicators: Histosol (A1)														
Hydric Soil Indicators: Histosol (A1)											_			
Hydric Soil Indicators: Histosol (A1)														
Hydric Soil Indicators: Histosol (A1)														
Hydric Soil Indicators: Histosol (A1)	1T C. C.		D David		De dues d I	Antria NAC	- Maalaad	C		21	DI Dara Lining M Matrix			
Histosol (A1)				etion, Rivi	=Reduced i	viatrix, ivi	s=Masked	Sand Gr	ains.					
Histic Epipedon (A2)	-				D	l. 0((07)				•			
Black Histic (A3)			Λ.					(CO) (MI DA 447					
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) (LRR N) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Redox Dark Surface (F12) Depleted Dark Surface (F12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Sandy Redox (S5) Stripped Matrix (S6) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes ✓ No Piedmont Floodplain Soils (F19) (MLRA 126, 127, 147) Piedmont Floodplain Soils (F19) (MLRA 127, 147) Piedmont Floodplain Soils (F19) (MLRA 127, 147) Piedmont Floodplain Soils (F19) (MLRA 127, 147) Hydric Soil Present? Yes ✓ No Piedmont Floodplain Soils (F19) Hydric Soil Present? Yes ✓ No Piedmont Floodplain Soils (F19) Hydric Soil Present? Yes ✓ No Piedmont Floodplain Soils (F19) Hydric Soil Present? Yes ✓ No Piedmont Floodplain Soils (F19) P			.)							148)	· · ·			
Stratified Layers (A5)			(4)						147, 148)					
2 cm Muck (A10) (LRR N)							,	r <i>2)</i>		_				
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Restrictive Layer (if observed): Type: Depth (inches): Depleted Dark Surface (F7) Depleted Dark Surface (F12) (LRR N,								6)						
Thick Dark Surface (A12)				(Δ11)							• , ,			
Sandy Mucky Mineral (S1) (LRR N,				, (, (, , , , ,						_	Carlor (Explain in Normanio)			
MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Restrictive Layer (if observed): Depth (inches): Depth (inches): Sendy Redox (S5) Sandy Redox (S5) Hydric Soil Present? Yes No Red Parent Material (F21) (MLRA 127, 147) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Hydric Soil Present? Yes No Red Parent Redouble (MLRA 127, 147)				RR N.					LRR N.					
Sandy Gleyed Matrix (S4)			a. (0.) (_	,				, i i i i i i i i i i i i i i i i i i i	(=,					
Sandy Redox (S5)			x (S4)					MLRA 1	36, 122)	³ lr	ndicators of hydrophytic vegetation and			
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No No			(/											
Restrictive Layer (if observed): Type: Depth (inches): Remarks: Hydric Soil Present? Yes ✓ No)											
Type:								, (<u>, </u>				
Depth (inches): Hydric Soil Present? Yes ✓ No Remarks:		•	,											
Remarks:		chas).								Hydric Sc	nil Present? Ves / No			
		Jiles)								Tiyunc 30	on riesent: res <u>v</u> No			
nyunc soli indicator P3 (Depleted Matrix) present, parameter met.		il indiac	tor E2	(Donle	stad Ma	triv) n	occut:	noron	actor ma	o t				
	riyuric sc	ii ii iuica	aloi F3	(Debie	eleu ivia	uix) pi	esem,	paran	ietei iiit	Եι.				

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-03
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-030
	Section, Township, Range: N/A
	Local relief (concave, convex, none): Convex Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.102	2396 Long: -86.981991 Datum: NAD83
Soil Map Unit Name: Clifty gravelly silt loam, 0 to 2 perce	ent slopes, occasionally flooded NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time	
	antly disturbed? Are "Normal Circumstances" present? Yes✓_ No
	lly problematic? (If needed, explain any answers in Remarks.)
	ving sampling point locations, transects, important features, etc.
	,
Hydrophytic Vegetation Present? Yes No whydric Soil Present? Yes No whydric Soil Present? No whydric Soil Present?	Is the Sampled Area
Wetland Hydrology Present? Yes No ✓	within a Wetland? Yes No
Remarks:	
	ot considered a definitional wetland. The lead delineator
conducted a due diligence review of the An	tecedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the tir	ne of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	
	atic Plants (B14) Sparsely Vegetated Concave Surface (B8)
	Sulfide Odor (C1) Drainage Patterns (B10) Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
	Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) of Reduced Iron (C4) Dry-Season Water Table (C2)
	on Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
	Surface (C7) Saturation Visible on Aerial Imagery (C9)
	plain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _✓ Depth (in	,
Water Table Present? Yes No _✓ Depth (in	ches):
Saturation Present? Yes No ✓ Depth (in	ches): Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspections), if available:
Remarks:	
Indicators of wetland hydrology absent; par	ameter lacking.
,	•

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-030
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present		·		That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3		·		Species Across All Strata:1 (B)
4				Percent of Dominant Species
5		·		That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		OBL species 2.00 x 1 = 2.00
50% of total cover: 0.0	20% of	total cover:_	0.0	FACW species $0.00 \times 2 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				FAC species 5.00 x 3 = 15.00
		·		FACU species 0.00 x 4 = 0.00
2		·		100.00
3				· — — — — — — — — — — — — — — — — — — —
4				Column Totals: 91.00 (A) 437.00 (B)
5				Prevalence Index = B/A = 4.8
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8		<u> </u>		2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0¹
		= Total Cove		4 - Morphological Adaptations¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:_	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)				Problematic Hydrophytic Vegetation (Explain)
1. Stellaria media	80	<u> </u>	UPL	Problematic Hydrophytic Vegetation (Explain)
2. Ranunculus sardous	5	N	FAC	The disease of headring and continued be advantaged
3. Lamium amplexicaule	2	N	UPL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Lamium purpureum	2	N	UPL	Definitions of Four Vegetation Strata:
_{5.} Packera glabella	2	N	OBL	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Harb All back assess (see see al.) also (see assess)
	91.0	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>45.5</u>				
Woody Vine Stratum (Plot size: 30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				noight.
2				
3		· · · · · · · · · · · · · · · · · · ·		
4				
5				Hydrophytic Vegetation
-	_	= Total Cove		Present? Yes No
50% of total cover:0.0				
Remarks: (Include photo numbers here or on a separate s				
Indicators of hydrophytic vegetation abs		rameter	lacking	٦.
, , , ,	· •			-

Profile Desc	ription: (Describe t	to the depth	needed to docun	nent the i	ndicator o	or confirm	the absence	of indicate	ors.)		
Depth	Matrix			k Features	3						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarl	KS	
0-4	10YR 3/4	100					SIL				
4-18	10YR 4/3	100				-	SICL	-			
- + 10	10111 7/0	100			•		OIOL				
					-						
	-						-				
	-										
¹ Type: C=Co	oncentration, D=Depl	etion PM-F	Peduced Matrix MS		Sand Gra	ine	² Location: F	DI –Pore Lin	ing M-Mat	riv	
Hydric Soil I		elion, Kivi=r	reduced Matrix, Mc	=iviaskeu	Sanu Gra	11115.				Hydric Soils	3.
-			Davis Confess	(07)						-	, .
Histosol			Dark Surface		(CO) /M	I D A 447	· · · · · · · · · · · · · · · · · · ·	2 cm Muck (, ,	,	
	nipedon (A2)		Polyvalue Be				140) (Coast Prairie		10)	
Black His			Thin Dark Su			47, 148)	,	(MLRA 14		::- ([40)	
	n Sulfide (A4)		Loamy Gleye		F2)		<u> </u>	Piedmont Fl		olis (F19)	
	Layers (A5)		Depleted Mat	. ,	·c)		,	(MLRA 13 ery Shallov		000 (TF12)	
	ck (A10) (LRR N) Below Dark Surface	\((\ 1 1 \)	Redox Dark S Depleted Dar					other (Expla		, ,	
	rk Surface (A12)	(A11)	Redox Depre				— '	Julei (⊏xpia	alli ili Kellia	iks)	
	lucky Mineral (S1) (L	DD N	Iron-Mangan			DD N					
	147, 148)	.NN IN,	MLRA 13		55 (F12) (L	-NN IN,					
	leyed Matrix (S4)		Umbric Surfa	•	MI DA 12	s 122\	3In	dicators of h	vdrophytic	vegetation and	٦
	edox (S5)		Piedmont Flo					etland hydro		-	u
	Matrix (S6)		Red Parent N					nless disturb			
	-ayer (if observed):		Neu Faleili II	ialenai (F	ZI) (IVILIX)	1 121, 141) ui	iless distuit	ed of probl	emano.	
Type:			_								,
Depth (inc	ches):						Hydric Soi	I Present?	Yes	No <u>√</u>	
Remarks:	The Product of										
Hyaric sc	oil indicators a	psent; p	arameter lac	king.							

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-05
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-031
	Section, Township, Range: N/A
	Local relief (concave, convex, none): Concave Slope (%): 0-2
· · · · · · · · · · · · · · · · · · ·	2544 Long: -86.992771 Datum: NAD83
· · · · · · · · · · · · · · · · · · ·	cent slopes, severely eroded NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time	
	antly disturbed? Are "Normal Circumstances" present? Yes✓_ No
	lly problematic? (If needed, explain any answers in Remarks.)
	ving sampling point locations, transects, important features, etc.
Lhudrashutia Variation Present?	
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No	is the Sampled Area
Wetland Hydrology Present? Yes ✓ No	Within a Wetland: 165 V 140
Remarks:	
· ·	alustrine forested (PFO) wetland. The lead delineator
_	tecedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the tin	ne of survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	
	atic Plants (B14) ✓ Sparsely Vegetated Concave Surface (B8)
	Sulfide Odor (C1) Drainage Patterns (B10)
	Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
	of Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iro	on Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck	Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Exp	plain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
✓ Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)
Field Observations:	1
Surface Water Present? Yes ✓ No Depth (inc	
Water Table Present? Yes <u>√</u> No Depth (inc	
Saturation Present? Yes No _ ✓ Depth (includes capillary fringe)	ches): Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial p	photos, previous inspections), if available:
Remarks:	
At least one primary or two secondary indic	ators observed; parameter met.

EGETATION (Four Strata) – Use scientific n	ames of plants.		Sampling Point: DP-031
700 m dive		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover Species		Number of Dominant Species
1. Acer saccharinum	20 Y	FACW	That Are OBL, FACW, or FAC: 2 (A)
2. Liquidambar styraciflua	10 Y	FAC	Total Number of Dominant
3. Fagus grandifolia		FACU	Species Across All Strata: (B)
4. Acer rubrum	5N	_ FAC	Percent of Dominant Species
5			That Are OBL, FACW, or FAC: 100.00 (A/B)
6			Prevalence Index worksheet:
7			Total % Cover of: Multiply by:
	40.0 = Total Co		OBL species $0.00 \times 1 = 0.00$
50% of total cover: <u>20.0</u>	20% of total cove	er: <u>8.0</u>	FACW species $20.00 \times 2 = 40.00$
Sapling/Shrub Stratum (Plot size: 15' radius)			FAC species $\frac{25.00}{15.00}$ x 3 = $\frac{45.00}{15.00}$
			FACU species 5.00 x 4 = 20.00
2			UPL species $0.00 \times 5 = 0.00$
3			40.00
4			Column Totals: 40.00 (A) 105.00 (B)
5			Prevalence Index = B/A = 2.62
6			Hydrophytic Vegetation Indicators:
7			1 - Rapid Test for Hydrophytic Vegetation
8			✓ 2 - Dominance Test is >50%
9			✓ 3 - Prevalence Index is ≤3.0 ¹
	0 = Total Co		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% of total cove	er: 0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)			Problematic Hydrophytic Vegetation ¹ (Explain)
1. No rooted herbs present			
2			¹ Indicators of hydric soil and wetland hydrology must
3			be present, unless disturbed or problematic.
4			Definitions of Four Vegetation Strata:
5			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6			more in diameter at breast height (DBH), regardless of
7			height.
8			Sapling/Shrub – Woody plants, excluding vines, less
9			than 3 in. DBH and greater than or equal to 3.28 ft (1
10			m) tall.
11			Herb – All herbaceous (non-woody) plants, regardless
	= Total Co		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 0.0	20% of total cove	er: <u>0.0</u>	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:30' radius)			height.
1. No rooted vines present			
2			
3			
4			Hydrophytic
5			Vegetation
	= Total Co		Present? Yes <u>√</u> No
50% of total cover: 0.0		er: 0.0	
Remarks: (Include photo numbers here or on a separate s	heet.)	- FOO/	f densire out on a size FAO and water
ndicator 2 (Dominance Test) present w	•		•
parameter met. Prevalence Index calcu	lated for refere	ence pur	poses only.

Profile Desc	ription: (D	escribe t	o the dep	th needed	to docun	nent the i	ndicator	or confirn	n the absence	e of indicators.)			
Depth		Matrix			Redo	x Features	3						
(inches)	Color (r		%	Color (r	noist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks			
0-3	10YR	3/2	100		· _	_		М	SIC				
3-6	10YR	3/2	85	10YR	5/8	15	С	M	SIC				
6-18	<u>10YR</u>	4/2	_30_	<u>10YR</u>	5/8	_70_	C	M	C				
						·							
	-			-			-						
							-			·			
¹Type: C=Co	noontration	D-Donl	otion DM	- Paduaad I	Motrix M		Sand Cr	nino	² Location: E	21 - Doro Lining M-Motriy			
Hydric Soil I			ellon, Kivi:	=Reduced i	viallix, ivic	<u>s=iviaskeu</u>	Sand Gi	ali 15.		PL=Pore Lining, M=Matrix. eators for Problematic Hydric Soils ³ :			
-				D	l. Cf	(07)							
Histosol		`			k Surface		(CO) (I	II D A 447		2 cm Muck (A10) (MLRA 147)			
	pipedon (A2)				low Surfac			, 148) (Coast Prairie Redox (A16)			
Black Hi		4)				rface (S9)		47, 148)	_	(MLRA 147, 148)			
	n Sulfide (A					ed Matrix (I	F2)		_ '	Piedmont Floodplain Soils (F19)			
	Layers (A				oleted Mat		0)		,	(MLRA 136, 147)			
	ick (A10) (L	-	(/////			Surface (F				/ery Shallow Dark Surface (TF12)			
	d Below Dar		e (ATT)			k Surface			_ (Other (Explain in Remarks)			
	ark Surface		DD N			ssions (F8		I DD N					
	lucky Miner	ai (51) (L	KK N,			ese Masse	es (F12) (LKK N,					
	147, 148)	(0.4)			MLRA 13	•		0 400\	3,				
	Bleyed Matri	x (S4)				ce (F13) (dicators of hydrophytic vegetation and			
	ledox (S5)					odplain S				etland hydrology must be present,			
	Matrix (S6)			Red	Parent N	/laterial (F	21) (MLR	A 127, 147	7) ur	nless disturbed or problematic.			
Restrictive I	_ayer (if ob	served):											
Type:										_			
Depth (inc	ches):								Hydric Soi	I Present? Yes <u>√</u> No			
Remarks:													
Hydric so	oil indica	tor F3	(Deple	eted Ma	trix) pr	esent;	param	eter m	et.				
•			` .		, .		•						

Project/Site: Lost City Solar	City/County: Mu	hlenberg County Sa	ampling Date: 2024-04-05			
Applicant/Owner: Lost Clty Renewables, LLC	State: Kentucky Sampling Point: DP-032					
	Section, Township	o, Range: N/A				
Landform (hillslope, terrace, etc.): Sideslope			Slope (%): 0-2			
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: \$\frac{1}{2}\$		•	Datum: NAD83			
Soil Map Unit Name: Zanesville silt loam, 6 to		-				
Are climatic / hydrologic conditions on the site typical for	_		·			
Are Vegetation, Soil, or Hydrology			· .			
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site ma						
Lhydrophytic Vogototion Drocont?	No. /					
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No /					
Wetland Hydrology Present? Yes	WILLIIII A W	etland? Yes	No			
Remarks:	I I					
One or more parameters lacking; are						
conducted a due diligence review of t	•	itation Tool (APT) and	determined that			
hydrologic conditions were normal at	the time of survey.					
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indicator	s (minimum of two required)			
Primary Indicators (minimum of one is required; check	all that annly)	Surface Soil Cra	,			
	rue Aquatic Plants (B14)		ated Concave Surface (B8)			
	Hydrogen Sulfide Odor (C1)	Drainage Patter				
	Oxidized Rhizospheres on Living					
	Presence of Reduced Iron (C4)	Dry-Season Wa				
	Recent Iron Reduction in Tilled So					
	hin Muck Surface (C7)		le on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Stunted or Stres	ssed Plants (D1)			
Iron Deposits (B5)		Geomorphic Po	sition (D2)			
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitare	d (D3)			
Water-Stained Leaves (B9)		Microtopographi				
Aquatic Fauna (B13)		FAC-Neutral Te	st (D5)			
Field Observations:						
	Depth (inches):					
_	Depth (inches):					
Saturation Present? Yes No _▼ (includes capillary fringe)	Depth (inches):	Wetland Hydrology Present?	Yes No ✓			
Describe Recorded Data (stream gauge, monitoring we	II, aerial photos, previous inspec	tions), if available:				
Remarks:						
Indicators of wetland hydrology abser	nt; parameter lacking.					

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-032
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30' radius)		Species?		Number of Dominant Species
1. Juniperus virginiana	50	Y	FACU	That Are OBL, FACW, or FAC: (A)
2. Acer rubrum	10	<u>N</u>	FAC	Total Number of Dominant
3. Quercus alba	5	<u>N</u>	<u>FACU</u>	Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				
7				Prevalence Index worksheet:
	65.0	= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover: <u>32.5</u>	20% of	total cover:	13.0	OBL species 0.00 x 1 = 0.00
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species $0.00 \times 2 = 0.00$
1. No rooted saplings/shrubs present				FAC species $10.00 \times 3 = 30.00$
2				FACU species <u>55.00</u> x 4 = <u>220.00</u>
3	_			UPL species $0.00 \times 5 = 0.00$
4				Column Totals: <u>65.00</u> (A) <u>250.00</u> (B)
5				Prevalence Index = B/A = 3.85
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
	0	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:5' radius)				• • • • • • • • • • • • • • • • • • • •
1. No rooted herbs present				Problematic Hydrophytic Vegetation ¹ (Explain)
2				The disease of hooding and continued booking as one
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7	_			height.
8				Continue/Charaka Manda and and and and and and
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	0	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 0.0	20% of	total cover:	0.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:30' radius)				height.
1. No rooted vines present				
2			-	
3				
4			-	Hydrophytic
5				Vegetation
	0	= Total Cov	er	Present? Yes No
50% of total cover: 0.0	20% of	total cover:	0.0	
Remarks: (Include photo numbers here or on a separate sl				
Indicators of hydrophytic vegetation abs	ent; pa	rameter	lacking	J.

Profile Desc	ription: (Des	scribe to	the dept	h needed to docur	nent the i	ndicator o	r confirm	the abse	nce of indicat	ors.)		
Depth		atrix			x Features	3						
(inches)	Color (mo	oist)	%	Color (moist)	%	_Type ¹	Loc ²	Texture	<u> </u>	Remar	ks	
0-5	10YR	4/3	100		_			SIC				
5-18	10YR	4/6	85					SIC				
								SIC				
	<u>10YR</u>	4/3	15_					310				
·	-	 -										
	-											
1		D. D	Cara DM	De desert Matrice M		010		21 ('	DI Desa Lie			
		D=Deple	tion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ins.		: PL=Pore Lir dicators for P			3.
Hydric Soil I				5 10 ((07)			In			-	
Histosol	. ,			Dark Surface		(CO) /M	I D A 447	4.40\	_ 2 cm Muck			
	oipedon (A2)			Polyvalue Be Thin Dark Su				148)	Coast Prairi (MLRA 1		16)	
Black Hi	en Sulfide (A4)	١		Loamy Gleye	, ,	•	+1, 140)		_ Piedmont F		nile (F10)	
	d Layers (A5)	,		Depleted Ma		1 2)		_	(MLRA 1) (1 1 <i>3</i>)	
	uck (A10) (LR	R N)		Redox Dark		·6)			Very Shallo		ace (TF12)	
	d Below Dark		(A11)	Depleted Date					Other (Expla		, ,	
	ark Surface (A		, ,	Redox Depre							·	
Sandy M	Mucky Mineral	(S1) (LF	RR N,	Iron-Mangan	ese Masse	es (F12) (L	.RR N,					
MLRA	A 147, 148)			MLRA 13	6)							
	Bleyed Matrix	(S4)		Umbric Surfa					Indicators of h		-	d
	Redox (S5)			Piedmont Flo					wetland hydro			
	Matrix (S6)			Red Parent N	/laterial (F	21) (MLR	127, 147	<u>')</u>	unless distur	bed or probl	ematic.	
Restrictive I	Layer (if obse	erved):										
Type:												_
Depth (inc	ches):							Hydric S	Soil Present?	Yes	No <u>_</u>	_
Remarks:												
Hydric so	oil indicate	ors ab	sent; p	arameter lac	king.							

Project/Site: Lost City Solar	City/County: Muh	lenberg County Sa	mpling Date: 2024-04-05
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-033
	Section, Township, I		
Landform (hillslope, terrace, etc.): Sideslope		-	Slope (%): 3-7
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat. 37.0			
Soil Map Unit Name: Frondorf-Lenberg complex	·		· · · · · · · · · · · · · · · · · · ·
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation, Soil, or Hydrology sig		re "Normal Circumstances" pres	
Are Vegetation, Soil, or Hydrology na		f needed, explain any answers in	
SUMMARY OF FINDINGS – Attach site map s			
Hydrophytic Vegetation Present? Yes No	./		
Hydric Soil Present? Yes No	/ Is the Sampi		/
Wetland Hydrology Present? Yes No	WILLIIII a VVCL	tland? Yes	No <u>¥</u>
Remarks:	l		
One or more parameters lacking; area is			
conducted a due diligence review of the	•	ation Tool (APT) and	determined that
hydrologic conditions were normal at the	time of survey.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators	(minimum of two required)
Primary Indicators (minimum of one is required; check all the	at apply)	Surface Soil Cra	cks (B6)
Surface Water (A1) True /	Aquatic Plants (B14)	Sparsely Vegeta	ited Concave Surface (B8)
	gen Sulfide Odor (C1)	Drainage Patterr	
Saturation (A3) Oxidiz	zed Rhizospheres on Living Ro	oots (C3) Moss Trim Lines	s (B16)
Water Marks (B1) Prese	nce of Reduced Iron (C4)	Dry-Season Wat	ter Table (C2)
Sediment Deposits (B2) Recer	nt Iron Reduction in Tilled Soils	s (C6) Crayfish Burrows	s (C8)
Drift Deposits (B3) Thin M	Muck Surface (C7)	Saturation Visible	e on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other	(Explain in Remarks)	Stunted or Stress	sed Plants (D1)
Iron Deposits (B5)		✓ Geomorphic Pos	sition (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard	d (D3)
Water-Stained Leaves (B9)		Microtopographic	c Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Tes	st (D5)
Field Observations:			
Surface Water Present? Yes No ✓ Dept			
Water Table Present? Yes No Dept			
Saturation Present? Yes No _ ✓ Dept (includes capillary fringe)	n (inches):	Wetland Hydrology Present?	Yes No✓
Describe Recorded Data (stream gauge, monitoring well, as	erial photos, previous inspection	ons), if available:	
Remarks:			
Indicators of wetland hydrology absent;	parameter lacking.		
The state of the s	our diritore i locolini igi		

	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)		Species?	Status	Number of Dominant Species
1. Liriodendron tulipifera	30	<u>Y</u>	FACU	That Are OBL, FACW, or FAC:0 (A)
2. Acer saccharum	10	<u>Y</u>	FACU	Total Number of Dominant
3. Quercus alba	5	<u>N</u>	FACU	Species Across All Strata:3 (B)
4. <u>Ulmus rubra</u>	5	<u>N</u>	<u>FAC</u>	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				
		= Total Cove		
50% of total cover: <u>25.0</u>) 20% of	total cover:	10.0	
Sapling/Shrub Stratum (Plot size: 15' radius)				
1. No rooted saplings/shrubs present				
2				
3				UPL species $0.00 \times 5 = 0.00$
4				Column Totals: <u>55.00</u> (A) <u>215.00</u> (B)
5				Prevalence Index = B/A = 3.91
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0¹
	0	= Total Cove	er	4 - Morphological Adaptations¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)				Problematic Hydrophytic Vegetation¹ (Explain)
1. Polystichum acrostichoides	5	<u> </u>	FACU	Problematic Hydrophytic Vegetation (Explain)
2				Indicators of hydric soil and watland hydrology must
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				John Mond of Four Fogotation Grata.
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Have All barbassaya (nan waadu) planta ragardlaas
	5.0	= Total Cove	<u></u>	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>2.5</u>				
Woody Vine Stratum (Plot size: 30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				noight.
2.				
3				
4				
5.				Hydrophytic Vegetation
		= Total Cove	<u></u>	Present? Yes No✓
50% of total cover:0.0				
Remarks: (Include photo numbers here or on a separate s Indicators of hydrophytic vegetation abs	^{heet.)} sent; pa	rameter	lacking	j.

Sampling Point: DP-033

Profile Desc	ription: (D	escribe t	to the dept	h needed to docur	nent the i	ndicator o	or confirm	the abse	nce of indica	itors.)		
Depth		Matrix		Redo	x Feature:	3						
(inches)	Color (r		%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	<u> </u>	Remar	ks	
0-6	10YR	4/3	100					SICL	_			
6-12	10YR	4/3	50					SICL	_			
	10YR	4/4	50					SICL				
12-18	10YR	4/6	100					SICL				
12 10	10111	7/0	100					0101				
								-				
			etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ins.		n: PL=Pore Li			3
Hydric Soil								ın	dicators for		-	OIIS :
Histosol	. ,	`		Dark Surface		(00) (1)		4.40)		(A10) (MLR		
	oipedon (A2) stic (A3))		Polyvalue Be				148) _		rie Redox (A	.16)	
	siic (A3) en Sulfide (A	.4)		Thin Dark Su Loamy Gleye			47, 140)			147, 148) Floodplain S	oile (F10)	
	d Layers (A5			Depleted Ma		r <i>z)</i>		_	 '	136, 147)	olis (F19)	
	ick (A10) (L			Redox Dark		·6)				ow Dark Sur	face (TF12)
·	d Below Dar	-	e (A11)	Depleted Dai	•	,		_	_ Other (Exp			,
	ark Surface		, ,	Redox Depre					_		,	
Sandy N	lucky Miner	al (S1) (L	.RR N,	Iron-Mangan	ese Mass	es (F12) (I	_RR N,					
	A 147, 148)			MLRA 13	6)							
	Sleyed Matri	x (S4)		Umbric Surfa					³ Indicators of		-	
	Redox (S5)			Piedmont Flo					wetland hyd			i,
	Matrix (S6)			Red Parent N	/laterial (F	21) (MLR	A 127, 147	7)	unless distu	rbed or prob	lematic.	
Restrictive I	Layer (if ob	served):										
Type:												
Depth (in	ches):							Hydric	Soil Present	? Yes	No	✓
Remarks:												
Hydric so	oil indica	itors a	bsent; p	arameter lac	king.							

Project/Site: Lost City Solar City/C	ounty: Muhlenberg County Sampling Date: 2024-04-05						
	State: Kentucky Sampling Point: DP-034						
Investigator(s): S.Davis, M.Herod Section	on, Township, Range: N/A						
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2							
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.113510 Long: -86.970897 Datum: NAD83							
Soil Map Unit Name: Belknap silt loam, 0 to 2 percent slopes,							
Are climatic / hydrologic conditions on the site typical for this time of year? Y							
Are Vegetation, Soil, or Hydrology significantly disturb	_						
Are Vegetation, Soil, or Hydrology naturally problema							
SUMMARY OF FINDINGS – Attach site map showing sam							
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes ✓ No Yes ✓ No No Remarks:	Is the Sampled Area within a Wetland? Yes ✓ No						
All parameters met; area is considered a palustrine conducted a due diligence review of the Anteceder hydrologic conditions were normal at the time of su	nt Precipitation Tool (APT) and determined that						
HYDROLOGY							
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ✓ Surface Water (A1) True Aquatic Plants (I ✓ High Water Table (A2) Hydrogen Sulfide Odd ✓ Saturation (A3) Oxidized Rhizosphere Water Marks (B1) Presence of Reduced Sediment Deposits (B2) Recent Iron Reduction Drift Deposits (B3) Thin Muck Surface (O Algal Mat or Crust (B4) Other (Explain in Remarks) Iron Deposits (B5) Other (Explain in Remarks) Water-Stained Leaves (B9)	or (C1)						
At least one primary or two secondary indicators of	bserved; parameter met.						

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-034
"	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC: (A)
2	-			Total Number of Dominant
3				Species Across All Strata: (B)
4	-			Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				
7				Prevalence Index worksheet:
	0	= Total Cove	er	Total % Cover of: Multiply by:
50% of total cover: 0.0	20% of	total cover:	0.0	OBL species 35.00 x 1 = 35.00
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species 30.00 x 2 = 60.00
1. No rooted saplings/shrubs present				FAC species20.00 x 3 =60.00
2				FACU species0.00 x 4 =0
3				UPL species 0.00 x 5 = 0.00
4				Column Totals: 85.00 (A) 155.00 (B)
5		·		
6				Prevalence Index = B/A = 1.82
_				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8	-	· ——		✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0 ¹
500/ attacks assume 0.0		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% 01	total cover:	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)	20	V	EA C\A/	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Phalaris arundinacea	30	Y	FACW	
2. Carex crinita	20	<u> </u>	OBL	¹ Indicators of hydric soil and wetland hydrology must
3. Baccharis neglecta	10	<u>N</u>	FAC	be present, unless disturbed or problematic.
4. Rubus pensylvanicus	10	<u>N</u>	FAC	Definitions of Four Vegetation Strata:
_{5.} Typha latifolia	10	N	OBL	Tree Meady plants and dispusing 2 in (7.0 pm)
6. Sagittaria cuneata	5	N	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				Conting/Chruth Woody plants avaluating vines less
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Harb All harbassaus (non woody) plants, regardless
	85.0	= Total Cove	er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 42.5				
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				neight.
2	-	-		
3				
4				Hydrophytic
5	_			Vegetation Present? Yes ✓ No
FOOV of total covers 0.0		= Total Cove		100 7
50% of total cover:0.0		iotal cover:	0.0	
Remarks: (Include photo numbers here or on a separate si	•			
Indicator 1 (Rapid Test) present with all	domina	ant spec	ies FA0	CW or OBL; parameter met.
Dominance Test and Prevalence Index	calculat	ted for re	eferenc	ce purposes only.
				-

Profile Desc	ription: (Describe t	o the dep	oth needed to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix		Redo	x Features			- .	5 .
(inches)	Color (moist)	<u> %</u>	Color (moist)		Type ¹	Loc ²	Texture	Remarks
0-18	10YR 5/2	75	10YR 5/8	_25_		<u>M</u>	SICL	
						- ——		
								-
1Type: C=C	oncentration, D=Depl	etion RM	-Reduced Matrix Ms	S-Maskad	I Sand Gr	aine	² Location: F	PL=Pore Lining, M=Matrix.
Hydric Soil		elion, Kivi	=Neduced Matrix, Mi	3=IVIASKEU	i Sanu Gi	allis.		ators for Problematic Hydric Soils ³ :
-			Dorle Curtons	(07)				•
Histosol	, ,		Dark Surface		oo (CO) (B	/II D A 4.47		2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be Thin Dark Su				140) (Coast Prairie Redox (A16)
Black Hi				. ,	•	147, 148)	-	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye	,	F2)			Piedmont Floodplain Soils (F19)
	Layers (A5)		✓ Depleted Ma		-0/		,	(MLRA 136, 147)
	ick (A10) (LRR N)	(0.4.4)	Redox Dark					/ery Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Da				_ (Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	lucky Mineral (S1) (L	RR N,	Iron-Mangan		es (F12) (LRR N,		
	A 147, 148)		MLRA 13	-			2.	
	lleyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo					etland hydrology must be present,
	Matrix (S6)		Red Parent N	∕laterial (F	21) (MLR	A 127, 147	') ur	nless disturbed or problematic.
Restrictive	ayer (if observed):							
Type:								
Depth (in	ches):						Hydric Soi	I Present? Yes ✓ No
Remarks:			 -				,	
	il indicator F3	(Deple	eted Matrix) pi	resent;	paran	neter me	et.	
,		` '	7 1	,	'			

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-05						
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-035						
Investigator(s): M.Herod, S.Davis	Section, Township, Range: N/A						
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none): None Slope (%): 0-2						
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.113	318 Long: -86.971124 Datum: NAD83						
,	slopes, occasionally flooded NWI classification: None						
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes ✓ No (If no, explain in Remarks.)						
	antly disturbed? Are "Normal Circumstances" present? Yes✓ No						
	y problematic? (If needed, explain any answers in Remarks.)						
	ing sampling point locations, transects, important features, etc.						
Hydrophytia Vagetation Bragant?							
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓	Is the Sampled Area						
Wetland Hydrology Present? Yes No_ ✓	within a Wetland? Yes No						
Remarks:	-						
	t considered a definitional wetland. The lead delineator						
S S	ecedent Precipitation Tool (APT) and determined that						
hydrologic conditions were normal at the time	ie of survey.						
LIVEROLOGY							
HYDROLOGY Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that app							
	ic Plants (B14) Sparsely Vegetated Concave Surface (B8)						
	Sulfide Odor (C1) Drainage Patterns (B10) hizospheres on Living Roots (C3) Moss Trim Lines (B16)						
	of Reduced Iron (C4) — Woss Triff Lines (B10) — Dry-Season Water Table (C2)						
	n Reduction in Tilled Soils (C6) Crayfish Burrows (C8)						
Drift Deposits (B3) Thin Muck							
	lain in Remarks) Stunted or Stressed Plants (D1)						
Iron Deposits (B5)	✓ Geomorphic Position (D2)						
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)						
Water-Stained Leaves (B9)	Microtopographic Relief (D4)						
Aquatic Fauna (B13)	FAC-Neutral Test (D5)						
Field Observations:	<u> </u>						
Surface Water Present? Yes No ✓ Depth (inc	hes):						
Water Table Present? Yes No _✓ Depth (inc	hes):						
Saturation Present? Yes No _ ✓ Depth (inc							
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial p	hotos previous inspections) if available:						
Describe Necorded Data (Stream gauge, monitoring wen, acriai p	notos, previous inspections), ii available.						
Remarks:							
No primary and only one secondary indicate	or of wetland hydrology present; parameter lacking.						

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-035
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30' radius) 1. No rooted trees present		Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
0				That Aic OBE, I AOW, OI I AO.
				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		OBL species $5.00 \times 1 = 5.00$
50% of total cover: 0.0	20% of	total cover:	0.0	FACW species $0.00 \times 2 = 0.00$
Sapling/Shrub Stratum (Plot size: 15)				40.00
1. No rooted saplings/shrubs present				
2				
3				UPL species $\frac{70.00}{0.00} \times 5 = \frac{350.00}{0.000}$
4				Column Totals: <u>85.00</u> (A) <u>385.00</u> (B)
5				Prevalence Index = B/A = 4.53
6				
7				Hydrophytic Vegetation Indicators:
8.				1 - Rapid Test for Hydrophytic Vegetation
9	-			2 - Dominance Test is >50%
<u>. </u>	0	= Total Cove		3 - Prevalence Index is ≤3.0 ¹
50% of total cover:0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)	2070 01	total oover.	0.0	data in Remarks or on a separate sheet)
1. Stellaria media	70	Υ	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ranunculus arvensis	10	N	FAC	
		N		¹ Indicators of hydric soil and wetland hydrology must
3. Packera glabella			OBL	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Herb – All herbaceous (non-woody) plants, regardless
	85.0	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 42.5				
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				noight.
2				
3				
4				Hydrophytic
5	_			Vegetation Present? Yes No✓
500/ // / 0.0		= Total Cove		riesent: resNo
50% of total cover: 0.0		total cover:	0.0	
Remarks: (Include photo numbers here or on a separate sl Indicators of hydrophytic vegetation abs		ramatar	lacking	n
indicators of rigurophytic vegetation abs	eni, pa	iametei	iackiiiç	J.

Profile Desc	ription: (Describe	to the depth	needed to docur	nent the i	ndicator	or confirm	the absence	e of indica	tors.)		
Depth	Matrix		Redo	x Features	3						
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	<u>Texture</u>		Remar	ks	
0-18	10YR 4/4	100					SIL				
								_			
							-				
			_								
	-										
	oncentration, D=Dep	letion, RM=R	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lir			-
Hydric Soil	Indicators:						Indi	cators for F	Problemation	: Hydric S	oils³:
Histosol	(A1)		Dark Surface	(S7)				2 cm Muck	(A10) (MLR	A 147)	
	pipedon (A2)		Polyvalue Be		ce (S8) (N	ILRA 147.	148)	Coast Prair			
Black Hi			Thin Dark Su				-,	(MLRA 1		- /	
	n Sulfide (A4)		Loamy Gleye	, ,	•	,,		Piedmont F		oile (F10)	
	d Layers (A5)				2)					ווט (וו ו	
	• ' '		Depleted Mar		0)			(MLRA 1		((TE40	
	ick (A10) (LRR N)	(* (*)	Redox Dark					Very Shallo			(.)
	d Below Dark Surface	e (A11)	Depleted Dar					Other (Expl	aın ın Rema	ırks)	
	ark Surface (A12)		Redox Depre								
	lucky Mineral (S1) (L	.RR N,	Iron-Mangan	ese Masse	es (F12) (LRR N,					
MLRA	\ 147, 148)		MLRA 13	6)							
Sandy G	Bleyed Matrix (S4)		Umbric Surfa	ce (F13) (MLRA 13	6, 122)	ıl ^e	ndicators of	hydrophytic	vegetation	and
	tedox (S5)		Piedmont Flo					vetland hydr		-	
	Matrix (S6)		Red Parent N					ınless distur			,
	_ayer (if observed):			iatoriai (i i	/ ()		,	arrioco diotai		- India.	
	Layer (ii observeu).										
Type:			<u> </u>								,
Depth (in	ches):						Hydric So	oil Present?	Yes	No	✓
Remarks:							1				
Hydric so	oil indicators a	bsent: pa	arameter lac	kina.							
,											

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-05						
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-036						
Investigator(s): M.Herod, S.Davis	Section, Township, Range: N/A						
Landform (hillslope, terrace, etc.): Flat Lo	ocal relief (concave, convex, none): None Slope (%): 0-2						
	0 Long: -86.965935 Datum: NAD83						
Soil Map Unit Name: Wellston silt loam, 6 to 12 percent							
Are climatic / hydrologic conditions on the site typical for this time of you							
	/ disturbed? Are "Normal Circumstances" present? Yes ✓ No						
Are Vegetation, Soil, or Hydrology naturally pr							
	g sampling point locations, transects, important features, etc.						
Hydrophytia Vagetation Propert?							
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓	Is the Sampled Area						
Wetland Hydrology Present? Yes No_ ✓	within a Wetland? Yes No						
Remarks:	<u>- L</u>						
,	considered a definitional wetland. The lead delineator						
	cedent Precipitation Tool (APT) and determined that						
hydrologic conditions were normal at the time	of survey.						
HADBOLOGA							
HYDROLOGY Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply)							
1							
Surface Water (A1) True Aquatic F High Water Table (A2) Hydrogen Sulf							
	ospheres on Living Roots (C3) Moss Trim Lines (B16)						
Water Marks (B1) Presence of R							
	eduction in Tilled Soils (C6) Crayfish Burrows (C8)						
Drift Deposits (B3) Thin Muck Sur							
Algal Mat or Crust (B4) Other (Explain							
Iron Deposits (B5)	✓ Geomorphic Position (D2)						
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)						
Water-Stained Leaves (B9)	Microtopographic Relief (D4)						
Aquatic Fauna (B13)	FAC-Neutral Test (D5)						
Field Observations:							
Surface Water Present? Yes No Depth (inches	s):						
Water Table Present? Yes No Depth (inches	s):						
Saturation Present? Yes No ✓ Depth (inches							
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial phot	os previous inspections) if available						
	оз, ргечова тареспота), п ачапавле.						
Remarks:							
No primary and only one secondary indicator	of wetland hydrology present; parameter lacking.						

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-036
	Absolute	Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		OBL species 2.00 x 1 = 2.00
50% of total cover: 0.0	20% of	total cover:	0.0	FACW species $0.00 \times 2 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				FAC species $0.00 \times 3 = 0.00$
1. No rooted saplings/shrubs present	-			FACU species $0.00 \times 4 = 0.00$
2				UPL species $90.00 \times 5 = 450.00$
3				Column Totals: 92.00 (A) 452.00 (B)
4				(A) 102.00 (B)
5				Prevalence Index = B/A = 4.91
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
FOOV of total appears 0.0		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0 Herb Stratum (Plot size: 5' radius)	20% 01	total cover.	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius) 1. Stellaria media	80	Υ	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Cerastium glomeratum	10	<u></u>	UPL	
3. Packera glabella	2	N	OBL	¹ Indicators of hydric soil and wetland hydrology must
			OBL	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6	-			more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11	-00.0			Herb – All herbaceous (non-woody) plants, regardless
50% of total cover: 46.0		= Total Cove		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:30' radius)	20 /6 01	total cover.	10.4	Woody vine – All woody vines greater than 3.28 ft in
. No reated vines present				height.
·· ·				
2				
3				
4				Hydrophytic
5	_			Vegetation Present? Yes No ✓
50% of total cover: 0.0		= Total Cover		
Remarks: (Include photo numbers here or on a separate si		total cover.	0.0	
Indicators of hydrophytic vegetation abs		rameter	lacking	1
maleatere of hydrophytic vegetation ass	ont, pa	ramotor	iaorai ig	j.

Sampling Point: DP-036

SOIL

Profile Desc	ription: (Describe t	o the dep	th needed to d	locument the	indicator	or confirm	the absence	of indicators.)	
Depth	Matrix			Redox Feature	S				
(inches)	Color (moist)	%	Color (mois	it) %	Type ¹	Loc ²	Texture	Remarks	
0-9	10YR 4/4	100					SICL		
			7.5VD E	/O FO		N /			
9-18	10YR 4/3	_50_	7.5YR 5	<u>/8 50</u>	C	M	SICL		
			-		-				-
									-
			_						
						· ——			
¹ Type: C=Co	oncentration, D=Depl	etion RM:	=Reduced Matr	ix MS=Masked	Sand Gr	ains	² Location: P	L=Pore Lining, M=Matrix.	
Hydric Soil		Cuon, raw	-reduced Mati	ix, ivio=iviasico	J Carla Ci	airio.		ators for Problematic Hydr	ric Soils ³
-			DI- 0-	((07)					
Histosol	, ,			urface (S7)	(00) (1	N D A 447	· · · · · · · · · · · · · · · · · · ·	cm Muck (A10) (MLRA 147)
	pipedon (A2)			ue Below Surfa	. , .		148) C	oast Prairie Redox (A16)	
Black Hi				rk Surface (S9		147, 148)	_	(MLRA 147, 148)	40)
	n Sulfide (A4)			Gleyed Matrix ((F2)		P	iedmont Floodplain Soils (F	19)
	Layers (A5)			ed Matrix (F3)				(MLRA 136, 147)	
	ick (A10) (LRR N)			Dark Surface (F				ery Shallow Dark Surface (7	ΓF12)
	Below Dark Surface	(A11)		d Dark Surface			0	ther (Explain in Remarks)	
	ark Surface (A12)			Depressions (F					
	lucky Mineral (S1) (L	RR N,		inganese Mass	es (F12) (LRR N,			
	\ 147, 148)			RA 136)			2		
	ileyed Matrix (S4)			Surface (F13)				icators of hydrophytic veget	
	edox (S5)			nt Floodplain S				tland hydrology must be pre	esent,
Stripped	Matrix (S6)		Red Pa	rent Material (F	21) (MLR	A 127, 147	7) un	less disturbed or problemati	C.
Restrictive I	ayer (if observed):								
Type:									
Depth (inc	ches):						Hydric Soil	Present? Yes	No ✓
							,		
Remarks:	vil indicators al	ocont:	naramatar	looking					
nyunc sc	oil indicators al	JSeni,	parameter	lacking.					

Project/Site: Lost City Solar City	y/County: Muhlenberg County Sampling Date: 2024-04-05
	State: Kentucky Sampling Point: DP-037
Investigator(s): M.Herod, S. Davis Se	ction, Township, Range: N/A
	relief (concave, convex, none): Concave Slope (%): 0-2
	Long: -86.968052 Datum: NAD83
Soil Map Unit Name: Bonnie silt loam, 0 to 2 percent slope:	
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes ✓ No (If no, explain in Remarks.)
	turbed? Are "Normal Circumstances" present? Yes✓ No
Are Vegetation, Soil, or Hydrology naturally proble	
	ampling point locations, transects, important features, etc.
· ·	Is the Sampled Area within a Wetland? Yes✓_ No ne emergent (PEM) wetland. The lead delineator ent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the time of	
HYDROLOGY	
Water Marks (B1) Presence of Reduction Sediment Deposits (B2) Recent Iron Reduction Drift Deposits (B3) Thin Muck Surface Algal Mat or Crust (B4) Other (Explain in File of the Composition of the C	Dodor (C1) Drainage Patterns (B10) Dreres on Living Roots (C3) Moss Trim Lines (B16) Dry-Season Water Table (C2) Stion in Tilled Soils (C6) Crayfish Burrows (C8) C(C7) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No Moss Trim Lines (B10) Moss Trim Lines (B16) Moss Trim Lines (B16)
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:
At least one primary or two secondary indicators	observed; parameter met.

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

EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-037
To the state of th	Absolute	Dominant I		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>) 1. <u>No rooted trees present</u>	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)
2				Total Number of Dominant Species Across All Strata: 5 (B)
4 5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 60.00 (A/B)
7				Prevalence Index worksheet:
	0	= Total Cove	r	Total % Cover of: Multiply by:
50% of total cover:0.0	20% of	total cover:_	0.0	OBL species $0.00 \times 1 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species $35.00 \times 2 = 70.00$
1. Betula nigra	35	<u>Y</u>	FACW	FAC species $30.00 \times 3 = 90.00$
2. Sambucus nigra	15	<u>Y</u>	FAC	FACU species 68.00 x 4 = 272.00
3. Ulmus rubra	10	N	FAC	UPL species x 5 = 0.00
4				Column Totals:133.00 (A)432.00 (B)
5				Dravalance Index = P/A = 3.24
6				Prevalence Index = B/A = 3.24
7				Hydrophytic Vegetation Indicators:
8				1 - Rapid Test for Hydrophytic Vegetation
9				✓ 2 - Dominance Test is >50%
	60.0	= Total Cove		3 - Prevalence Index is ≤3.0 ¹
50% of total cover: <u>30.0</u>				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)				data in Remarks or on a separate sheet)
1. Rumex Crispus	5	Y	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Polystichum acrostichoides	5	Y	FACU	
3		<u> </u>		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4		<u> </u>		Definitions of Four Vegetation Strata:
5				Delinitions of Four Vegetation Strata.
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
9.				Sapling/Shrub – Woody plants, excluding vines, less
10				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11.				
	15.0	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:7.5				of size, and woody plants less than 5.20 it tall.
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. Lonicera Japonica	63	Y	FACU	
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cove	r	Present? Yes No
50% of total cover: 0.0	20% of	total cover:_	0.0	
Remarks: (Include photo numbers here or on a separate shindicator 2 (Dominance Test) present with	ith grea			•
parameter met. Prevalence Index calcul	ated fo	r referen	ce pur	poses only.

Sampling Point: DP-037

SOIL

		Matrix	%	0-1	Redox	<u>k Features</u>		Loc ²	T		D	
	Color (r			Color (r			Type ¹		Texture		Remarks	<u> </u>
2 4 0 4	10YR	4/1	95	10YR	5/8	5		M/PL	SIC			
2-18 1	10YR	5/2	80	<u>10YR</u>	5/8	_20_	C	M	SIC			
				-			-					
								·				
				-				· ——				
ype: C=Cond	centration	n. D=Depl	etion. RM	=Reduced I	Matrix. MS	=Masked	Sand Gr	ains.	² Location: P	L=Pore Lin	ing, M=Matrix	ζ.
ydric Soil Inc					,						roblematic F	
_ Histosol (A	\1)			Dar	k Surface	(S7)			2	cm Muck (A10) (MLRA	147)
_ Histic Epip	edon (A2	1)					e (S8) (N	/ILRA 147,	148) C	oast Prairie	e Redox (A16	i)
_ Black Histi	. ,					rface (S9)		147, 148)		(MLRA 14		
_ Hydrogen S						d Matrix (F	-2)		P		oodplain Soil	s (F19)
_ Stratified L					oleted Mat		2)			MLRA 13		(TE12)
2 cm MuckDepleted B			(Δ11) د			Surface (F6 k Surface	,				v Dark Surfac iin in Remark	
_ Depleted E _ Thick Dark			, (, (, 1, 1,			ssions (F8			_ `	ATTOT (EXPIC	iii iii ittoilialit	0)
Sandy Mud			.RR N,			ese Masse		LRR N,				
MLRA 1	147, 148)			1	MLRA 130	6)						
_ Sandy Gle		x (S4)				ce (F13) (I					ydrophytic ve	-
_ Sandy Red								(MLRA 14			logy must be	
_ Stripped M				Red	d Parent M	laterial (F2	21) (ML R	A 127, 147) un	less disturb	ed or probler	natic.
estrictive La	iyer (if ob	servea):										
Type:	``									D 40	v /	
Depth (inche	es):								Hydric Soil	Present?	Yes <u>√</u>	No
ydric soil			` '		, ,		•					

Project/Site: Lost City Solar	City/County: Mul	nlenberg County s	ampling Date: 2024-04-05			
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky	Sampling Point: DP-038			
Investigator(s): M.Herod, S.Davis	Section, Township	, Range: N/A				
Landform (hillslope, terrace, etc.): Flat	Local relief (concave,	convex, none): None	Slope (%): 0-2			
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat:		Long: -86.988737				
Soil Map Unit Name: Sharon silt loam, 0 to 2 p		ally flooded NWI classification	on: None			
Are climatic / hydrologic conditions on the site typical for			•			
Are Vegetation, Soil, or Hydrology			_			
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site ma						
Lhudanhutia Vanatatian Bassast2	No. /					
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No /					
Wetland Hydrology Present? Yes		etland? Yes	No <u>√</u>			
Remarks:						
One or more parameters lacking; are						
conducted a due diligence review of		itation Tool (APT) and	d determined that			
hydrologic conditions were normal at	the time of survey.					
LIVERELEEN						
HYDROLOGY		Casaadan ladiaata	(:-:-:			
Wetland Hydrology Indicators:	all that again	<u></u>	rs (minimum of two required)			
Primary Indicators (minimum of one is required; check		Surface Soil Cra				
	Frue Aquatic Plants (B14)		ated Concave Surface (B8)			
	Hydrogen Sulfide Odor (C1)	Drainage Patter				
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)						
	Recent Iron Reduction in Tilled So					
	Thin Muck Surface (C7)		ole on Aerial Imagery (C9)			
	Other (Explain in Remarks)		ssed Plants (D1)			
Iron Deposits (B5)	other (Explain in Remarks)	Stanted of Stress				
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitar				
Water-Stained Leaves (B9)		Microtopograph				
Aquatic Fauna (B13)		FAC-Neutral Te				
Field Observations:			(50)			
	Depth (inches):					
	Depth (inches):					
	Depth (inches):	Wetland Hydrology Present?	Yes No √			
(includes capillary fringe)	. , ,	, ,,				
Describe Recorded Data (stream gauge, monitoring we	आ, aeriai pnotos, previous inspect	lions), if available:				
Remarks:						
No primary and only one secondary i	ndicator of wetland hy	drology present; parar	meter lacking.			
I and the second						

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

	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)		Species?	Status	Number of Dominant Species
1. Juniperus virginiana	80	<u>Y</u>	FACU	That Are OBL, FACW, or FAC:1 (A)
2. Carya cordiformis	20	<u>N</u>	FACU	Total Number of Dominant
3. Acer saccharum	<u>15</u>	<u>N</u>	FACU	Species Across All Strata:4 (B)
4. <u>Ulmus rubra</u>	5	<u>N</u>	<u>FAC</u>	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 25.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		OBL species 0.00 x 1 = 0.00
50% of total cover: <u>60.0</u>	20% of	total cover:	24.0	
Sapling/Shrub Stratum (Plot size: 15' radius)				10.00
1. No rooted saplings/shrubs present				100.00
2				
3				
4				Column Totals: <u>135.00</u> (A) <u>530.00</u> (B)
5				Prevalence Index = B/A = 3.93
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0¹
		= Total Cove	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)				Problematic Hydrophytic Vegetation¹ (Explain)
1. Symphoricarpos orbiculatus		<u> </u>	FACU	Problematic Hydrophytic Vegetation (Explain)
2. Claytonia virginica	5	<u> </u>	FAC	¹ Indicators of hydric soil and wetland hydrology must
3. Cardamine hirsuta	5	<u> </u>	<u>FACU</u>	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				Continui Church Mandy planta avaluding vince loss
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10	-			m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	15.0	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover:				Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)				height.
1. No rooted vines present				
2				
3				
4				Hydrophytic
5	-			Vegetation
	0	= Total Cove	er	Present? Yes No
50% of total cover:0.0	20% of	total cover:	0.0	
Remarks: (Include photo numbers here or on a separate s				
Indicators of hydrophytic vegetation abs	ent; pa	rameter	lacking) .

Sampling Point: DP-038

Sampling Point: DP-038

SOIL

Profile Desc	ription: (Describe t	o the depth	needed to docun	ent the i	ndicator o	r confirm	the absenc	e of indicat	ors.)		
Depth	Matrix			c Features	3						
(inches)	Color (moist)	%	Color (moist)	<u></u> %	Type ¹	Loc ²	<u>Texture</u>		Remark	KS	
0-16	10YR 4/4	100					SIL				
16-18	10YR 4/6	100			-		SIL	-			
10-10	1011 4/0	100			-		SIL	-			
					-			-			
							•	-			
							-				
								-			
								-			
¹ Type: C=Co	oncentration, D=Depl	etion, RM=R	Reduced Matrix, MS	=Masked	Sand Gra	ins.	² Location: I				
Hydric Soil I	ndicators:						Indi	cators for P	roblematic	Hydric Soils ³	:
Histosol	(A1)		Dark Surface	(S7)				2 cm Muck (A10) (MLR	A 147)	
	pipedon (A2)		Polyvalue Be		ce (S8) (M	LRA 147.		Coast Prairie	. , .	•	
Black Hi			Thin Dark Su				·	(MLRA 14	•	-,	
	n Sulfide (A4)		Loamy Gleye			,,		Piedmont Fl		oils (F19)	
	Layers (A5)		Depleted Mat		-/		_	(MLRA 1		(
	ck (A10) (LRR N)		Redox Dark S	. ,	6)			Very Shallov		ace (TF12)	
	Below Dark Surface	(A11)	Depleted Dar					Other (Expla			
	ark Surface (A12)	()	Redox Depre				_	(=:-		,	
	lucky Mineral (S1) (L	RR N.	Iron-Mangane			RR N.					
	147, 148)	,	MLRA 130		, , (-						
	leyed Matrix (S4)		Umbric Surfa	-	MI RA 13	5 122)	³ In	dicators of h	vdrophytic v	vegetation and	
	edox (S5)		Piedmont Flo					etland hydro		-	'
	Matrix (S6)		Red Parent M					nless disturb			
	ayer (if observed):		Rou r archi iv	iatoriai (i z	21) (IVILIX)	121, 171	, u	ilicoo diotari	oca or probr	cinatio.	
Type:										,	
Depth (inc	ches):						Hydric So	il Present?	Yes	No <u></u>	_
Remarks:											
Hydric so	oil indicators a	bsent; pa	arameter lac	king.							
				_							

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-04-05
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-039
Investigator(s): M.Herod, S. Davis	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none): None Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.1100	099 Long: -86.971740 Datum: NAD83
· · · · · · · · · · · · · · · · · · ·	slopes, occasionally flooded NWI classification: R4SBC
Are climatic / hydrologic conditions on the site typical for this time o	
	ntly disturbed?
	y problematic? (If needed, explain any answers in Remarks.)
	ing sampling point locations, transects, important features, etc.
Lhudrachutia Vasatetian Present?	
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓	Is the Sampled Area
Wetland Hydrology Present? Yes No ✓	within a Wetland? Yes No✓
Remarks:	_
	t considered a definitional wetland. The lead delineator
conducted a due diligence review of the Anto	ecedent Precipitation Tool (APT) and determined that
hydrologic conditions were normal at the tim	e of survey.
HYDROLOGY	Occasional de l'action (all'allement le l'action de l'
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	
	ic Plants (B14) Sparsely Vegetated Concave Surface (B8)
	Sulfide Odor (C1) Drainage Patterns (B10)
	hizospheres on Living Roots (C3) Moss Trim Lines (B16)
	f Reduced Iron (C4) Dry-Season Water Table (C2) Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Sediment Deposits (B2) Recent Iron Thin Muck \$	
	ain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	✓ Geomorphic Position (D2)
Indit Deposits (B0) Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ Depth (inch	hes):
Water Table Present? Yes No _ ✓ Depth (inch	hes):
Saturation Present? Yes No ✓ Depth (inch	hes): Wetland Hydrology Present? Yes No/
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pl	hotos, previous inspections), if available:
, , , ,	
Remarks:	
No primary and only one secondary indicato	or of wetland hydrology present; parameter lacking.

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

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-039
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees present				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:3 (B)
4				Persont of Deminant Charles
5				Percent of Dominant Species That Are OBL, FACW, or FAC:
6				
7				Prevalence Index worksheet:
	0	= Total Cove	er	Total % Cover of: Multiply by:
50% of total cover: 0.0	20% of	total cover:_	0.0	OBL species $0.00 \times 1 = 0.00$
Sapling/Shrub Stratum (Plot size: 15' radius)				FACW species $0.00 \times 2 = 0.00$
1. No rooted saplings/shrubs present				FAC species $0.00 \times 3 = 0.00$
2				FACU species
3				UPL species <u>0.00</u> x 5 = <u>0.00</u>
4				Column Totals: <u>70.00</u> (A) <u>280.00</u> (B)
5				Provolence Index - P/A 4 0
6				Prevalence Index = B/A = 4.0
7				Hydrophytic Vegetation Indicators:
8				1 - Rapid Test for Hydrophytic Vegetation
9.				2 - Dominance Test is >50%
	0	= Total Cove	er	3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' radius)				data in Remarks or on a separate sheet)
1. Allium vineale	30	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Symphoricarpos orbiculatus	20	Υ	FACU	
3. Podophyllum peltatum	15	Y	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Dichanthelium latifolium	5	N	FACU	Definitions of Four Vegetation Strata:
5				Definitions of Four Vegetation Strata.
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7.				more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10		-		m) tall.
11.		-		
	70.0	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 35.0				
Woody Vine Stratum (Plot size:30' radius)		_		Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				neight.
2				
3				
4				
5				Hydrophytic Vegetation
<u></u>	_	= Total Cove		Present? Yes No
50% of total cover: <u>0.0</u>				
Remarks: (Include photo numbers here or on a separate sl				
Indicators of hydrophytic vegetation abs		rameter	lacking].
, , , ,	, I			•

Sampling Point: DP-039

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ^2Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Indicators for Problematic Hydric Sill Indicators: Indicators for Problematic Hydric Sill Indicators f	pe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils³: Indicators for Problematic Hydric Soils³: Histosol (A1)	Depth	Matrix Color (moist)	%	Redox Features Color (moist) % Type ¹ Loc ²		n Domovico
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ydric Soil Indicators: Histosoil (A1) Histos Epipedon (A2) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Zem Muck (A10) (LRR N) Redox Dark Surface (F6) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Seripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Depth (inches): Hydric Soil Present? Yes No emarks:	pe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 2				Color (moist) % Type Loc		s Remarks
Histosol (A1)	Histosol (A1)	0-10	101R 4/4	100			<u> </u>
Histosol (A1)	Histosol (A1)						
ydric Soil Indicators: _ Histosol (A1)	Histosol (A1)						
ydric Soil Indicators: _ Histosol (A1)	Histosol (A1)						
ydric Soil Indicators: _ Histosol (A1)	Histosol (A1)						
ydric Soil Indicators: _ Histosol (A1)	Histosol (A1)		-				
Microsol (A1)	Histosol (A1)						
Indicators for Problematic Hydric S Indicators for Problematic Hydric S Histosol (A1)	Histosol (A1)						
ydric Soil Indicators: _ Histosol (A1)	Histosol (A1)		-				
Indicators for Problematic Hydric S Indicators for Problematic Hydric S Histosol (A1)	Histosol (A1)						
Indicators for Problematic Hydric S Indicators for Problematic Hydric S Histosol (A1)	Histosol (A1)						
ydric Soil Indicators: _ Histosol (A1)	Histosol (A1)						
ydric Soil Indicators: _ Histosol (A1)	Histosol (A1)		anaantration D Day	olotion DM D	advesd Metrix MC Mesked Send Crains	21 continu	D. Doro Lining M. Motrix
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) Peledmont Floodplain Soils (F19) (MLRA 136, 147) Loamy Gleyed Matrix (F3) (MLRA 136, 147) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12 Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Very Shallow Dark Surface (TF12 Depleted Below Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) Unbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problematic. Bardy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 127, 147) unless disturbed or problematic. Bestrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No emarks:	Histosol (A1)			pletion, RIVI=R	educed Matrix, MS=Masked Sand Grains.	Location	n: PL=Pore Lining, M=Matrix.
Histic Epipedon (A2)	Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Hydrogen Sulfide (A4) Extratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sardy Redox (S5) Sardy Redox (S5) Sardy Redox (S5) Sardy Matrix (S6) Sardy Redox (S5) Strictive Layer (if observed): Type: Depth (inches): Thick Dark Surface (A12) Sardy Redox (S1) Sardy Redox (S2) Sardy Redox (S5) Sardy Redox (S5) Sardy Redox (S5) Sardy Redox (S6) Sa	-			Doub Charles (C7)	""	
	Black Histic (A3)						
	Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, MLRA 136) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) 3Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type: Depth (inches): Hydric Soil Present? Yes No Marks:						
Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) Very Shallow Dark Surface (TF12 Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) 3Indicators of hydrophytic vegetation wetland hydrology must be present stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Stripped Matrix (S6)	Stratified Layers (A5))	
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12 Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic vegetation wetland hydrology must be present stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Sandy Redox (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Sandy Redox (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Sandy Redox (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic.	2 cm Muck (A10) (LRR N)					_	
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Depleted Dark Surface (F7) Cher (Explain in Remarks) Dother (Explain in Remarks) Characteristics (F12) Depth (inches): Depth (inches): Depth (sinches): Depth (sinches	Depleted Below Dark Surface (A11)						
Thick Dark Surface (A12)	Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No marks:			ce (A11)		_	
	Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Strictive Layer (if observed): Type: Depth (inches): MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Red Parent Material (F21) (MLRA 127, 147) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No Matrix (S6) Hydric Soil Present? Yes No Matrix (S6) Hydric Soil Present? Yes No Matrix (S6) MLRA 136) Wetland hydrology must be present, unless disturbed or problematic.			,	,	_	
MLRA 147, 148) _ Sandy Gleyed Matrix (S4) _ Sandy Redox (S5) _ Stripped Matrix (S6) _ Stripped Matrix (S6) _ Stripped Matrix (S6) _ Red Parent Material (F21) (MLRA 127, 147) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Stripped Matrix (S6) Hydric Soil Present? Yes No	MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Red Parent Material (F21) (MLRA 127, 147) Strictive Layer (if observed): Type: Depth (inches): Type: Depth (inches): MLRA 136, Umbric Surface (F13) (MLRA 136, 122) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No ✓			LRR N,			
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present unless disturbed or problematic. Stripped Matrix (S6)	Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No✓						
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No generals:	Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No marks:				Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and
Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No Remarks:	Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No _✓ marks:				Piedmont Floodplain Soils (F19) (MLRA	148)	wetland hydrology must be present,
Type: Depth (inches):	Type:	_ Stripped	d Matrix (S6)				unless disturbed or problematic.
Depth (inches): No Remarks:	Depth (inches): Hydric Soil Present? Yes No _✓ marks:	Restrictive	Layer (if observed)):			
Remarks:	marks:	Type:					
Remarks:	marks:	Depth (in	ches):			Hydric	Soil Present? Yes No ✓
			,				

Project/Site: Lost City Solar	City/County: Muh	lenberg County s	sampling Date: 2024-04-05			
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky				
Investigator(s): M.Herod, S.Davis	Section, Township,	Range: N/A				
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, c	convex, none): None	Slope (%): 0-2			
Subregion (LRR or MLRA): LRR N, MLRA 120A La	ıt: <u>37.106291</u> ı	_ong:86.989379	Datum: NAD83			
Soil Map Unit Name: Sharon silt loam, 0 to 2	? percent slopes, occasiona	Illy flooded NWI classificati	ion: R4SBC			
Are climatic / hydrologic conditions on the site typical	for this time of year? Yes No	o (If no, explain in Ren	narks.)			
Are Vegetation, Soil, or Hydrology	significantly disturbed? A	re "Normal Circumstances" pre	sent? Yes ✓ No			
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site	map showing sampling poin	t locations, transects, i	mportant features, etc.			
Hydric Soil Present? Yes	No ✓ Is the Samp within a Wet		No <u>√</u>			
Wetland Hydrology Present? Yes	No✓					
One or more parameters lacking; a conducted a due diligence review of hydrologic conditions were normal	of the Antecedent Precipit					
HYDROLOGY						
Wetland Hydrology Indicators:		·	rs (minimum of two required)			
Primary Indicators (minimum of one is required; che	ck all that apply)	Surface Soil Cr				
	_ True Aquatic Plants (B14)		tated Concave Surface (B8)			
	_ Hydrogen Sulfide Odor (C1)	Drainage Patte				
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)						
	Presence of Reduced Iron (C4)	Dry-Season Wa				
	Recent Iron Reduction in Tilled Soil					
Drift Deposits (B3)	_ Thin Muck Surface (C7)		ole on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	_ Other (Explain in Remarks)		ssed Plants (D1)			
Iron Deposits (B5)		✓ Geomorphic Po	, ,			
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitar Microtopograph				
Water-Stained Leaves (B9) Aquatic Fauna (B13)		FAC-Neutral Te	` '			
Field Observations:		170-Neutiai 16	531 (D3)			
	Depth (inches):					
	Depth (inches):					
		Wetland Hydrology Present?	Yes No_ ✓			
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring						
Remarks:						
No primary and only one secondary	y indicator of wetland by	trology present: para	meter lacking			
The primary and only one secondary	y indicator of wetland flyd	irology present, para	ineter lacking.			

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

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-040
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. Liriodendron tulipifera	15	<u>Y</u>	<u>FACU</u>	That Are OBL, FACW, or FAC: 2 (A)
2. Fagus grandifolia	10	Y	FACU	Total Number of Dominant
3. Prunus serotina	5	N	<u>FACU</u>	Species Across All Strata: 8 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 25.00 (A/B)
6				(745)
7.				Prevalence Index worksheet:
	30.0	= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover:15.0				OBL species 0.00 x 1 = 0.00
Sapling/Shrub Stratum (Plot size: 15' radius)		•		FACW species <u>0.00</u> x 2 = <u>0.00</u>
1. Ulmus rubra	15	Υ	FAC	FAC species $20.00 \times 3 = 60.00$
2. Lonicera mackii		Y	UPL	FACU species <u>45.00</u> x 4 = <u>180.00</u>
3. Carya ovata		Y	FACU	UPL species5.00 x 5 =25.00
			17100	Column Totals:70.00 (A)265.00 (B)
4				
5				Prevalence Index = B/A = 3.79
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
700 (1) 1		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 12.5	20% of	total cover:	5.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' radius)	_	V	E40	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Claytonia virginica		<u> </u>	FAC	
2. Symphoricarpos orbiculatus	5	<u>Y</u>	FACU	¹ Indicators of hydric soil and wetland hydrology must
3. Cardamine hirsuta	5	<u> </u>	FACU	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				One the of Ohmeth Ward and a state of the order of the or
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Harb All harbassaya (non woody) planta regardless
	15.0	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 7.5				
Woody Vine Stratum (Plot size:30' radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines present				neight.
2				
3.				
4		·		
				Hydrophytic
5	_	= Total Cov		Vegetation Present? Yes No✓
50% of total cover: <u>0.0</u>				
Remarks: (Include photo numbers here or on a separate si		total cover.	0.0	
Indicators of hydrophytic vegetation abs		rameter	lacking	1.
maleatere of flyarephytic vegetation abo	orit, pa	ramotor	iaorang	, .

SOIL Sampling Point: <u>DP-040</u>

Profile Desc	ription: (Describe	to the depth	needed to document the indicator or confi	rm the ak	osence of indicators.)
Depth	Matrix		Redox Features		
(inches)	Color (moist)	%	Color (moist) % Type ¹ Loc ²	Tex	ture Remarks
0-18	10YR 4/4	100			
	10111 4/4				
	-				
				_	
	•				
1Tyma: C. C.	anaantration D Dan	lotion DM D	advend Matrix MC Manked Cond Crains	21 000	tion, DI Doro Lining M Motriy
		netion, KM=R	educed Matrix, MS=Masked Sand Grains.	Loca	tion: PL=Pore Lining, M=Matrix.
Hydric Soil					Indicators for Problematic Hydric Soils ³ :
Histosol			Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue Below Surface (S8) (MLRA 14		Coast Prairie Redox (A16)
	stic (A3)		Thin Dark Surface (S9) (MLRA 147, 148))	(MLRA 147, 148)
Hydroge	en Sulfide (A4)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19)
Stratified	d Layers (A5)		Depleted Matrix (F3)		(MLRA 136, 147)
2 cm Mu	ıck (A10) (LRR N)		Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)
Depleted	d Below Dark Surfac	e (A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depressions (F8)		
Sandy N	Mucky Mineral (S1) (I	LRR N,	Iron-Manganese Masses (F12) (LRR N,		
MLRA	A 147, 148)		MLRA 136)		
Sandy G	Bleyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Floodplain Soils (F19) (MLRA	148)	wetland hydrology must be present,
	Matrix (S6)		Red Parent Material (F21) (MLRA 127, 1		unless disturbed or problematic.
	Layer (if observed):	:		Ť	'
Depth (in	ches):		_	Hydi	ric Soil Present? Yes No
Remarks: Hydric so	oil indicators a	ibsent; pa	arameter lacking.		

Project/Site: Lost City Solar			City/C	ounty: Muhlenber	g County	Sampling Date: 2024-07-30
Applicant/Owner: Lost City R						ky Sampling Point: DP-041
Investigator(s): I. Bentley,				n, Township, Range:		<u> </u>
Landform (hillslope, terrace, et						Slone (%): 0-2
						Datum: NAD83
Soil Map Unit Name: Belkna						
						<u> </u>
Are climatic / hydrologic condit						_
						present? Yes No
Are Vegetation, Soil						
SUMMARY OF FINDING	3S – Atta	ch site m	ap showing sam	pling point locati	ons, transects	s, important features, etc.
Hydrophytic Vegetation Prese Hydric Soil Present? Wetland Hydrology Present?			No No No	Is the Sampled Area within a Wetland?	Yes <u>√</u>	No
Remarks:						
All parameters met; conducted a due dill hydrologic condition	igence re	eview of	the Anteceder	nt Precipitation	rool (APT) а	
HYDROLOGY						
Wetland Hydrology Indicato					·	ators (minimum of two required)
Primary Indicators (minimum	of one is req	-			✓ Surface Soil	
✓ Surface Water (A1)			True Aquatic Plants (getated Concave Surface (B8)
✓ High Water Table (A2)✓ Saturation (A3)			Hydrogen Sulfide Odd	es on Living Roots (C3)	✓ Drainage Pa Moss Trim L	
Water Marks (B1)			Presence of Reduced			Water Table (C2)
Sediment Deposits (B2)			Recent Iron Reduction		✓ Crayfish Bu	· · ·
Drift Deposits (B3)			Thin Muck Surface (C			isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)			Other (Explain in Ren			Stressed Plants (D1)
Iron Deposits (B5)		_	(=	,	✓ Geomorphic	
Inundation Visible on Aer	ial Imagery	(B7)			Shallow Aqu	` '
Water-Stained Leaves (E		()				aphic Relief (D4)
Aquatic Fauna (B13)	9				✓ FAC-Neutra	
Field Observations:						. ,
Surface Water Present?	Yes <u>√</u>	_ No	Depth (inches): 3			
Water Table Present?	Yes <u>√</u>	_ No	Depth (inches): 0			
Saturation Present?			Depth (inches): 0	Wetland	Hydrology Prese	nt? Yes <u>√</u> No
(includes capillary fringe) Describe Recorded Data (stre	eam gauge,	monitoring w	vell, aerial photos, pre	vious inspections), if av	ailable:	
Remarks: At least one primary	or two s	seconda	ry indicators of	oserved: param	eter met	
The roads one primary	0	Joooniaa	ry maioatoro oi	occirca, param		

EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-041
	Absolute	Dominant I		Dominance Test worksheet:
Tree Stratum (Plot size: 30 radius)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees				That Are OBL, FACW, or FAC:3 (A)
2				Total Number of Dominant
3				Species Across All Strata:3 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				, ,
7				Prevalence Index worksheet:
	_	= Total Cove	r	Total % Cover of: Multiply by:
50% of total cover: 0.0	20% of	total cover:_	0.0	OBL species <u>25.00</u> x 1 = <u>25.00</u>
Sapling/Shrub Stratum (Plot size: 15 radius)				FACW species 60.00 x 2 = 120.00
1. Acer rubrum	10	Υ	FAC	FAC species 10.00 x 3 = 30.00
2.				FACU species0.00 x 4 =0.00
				UPL species 0.00 x 5 = 0.00
3				Column Totals: 95.00 (A) 175.00 (B)
"				(, (, ,
5				Prevalence Index = B/A = 1.84
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0 ¹
		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 5.0	20% of	total cover:_	2.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:5 radius)				Problematic Hydrophytic Vegetation¹ (Explain)
1. Cyperus strigosus	60	<u> </u>	FACW	1 Toblematic Hydrophytic vegetation (Explain)
_{2.} Ludwigia palustris	25	Y	OBL	The disease of headring only and continued be advantaged as
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Definitions of Four Vegetation offata.
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
7 8.				Tioight.
9.				Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Til) tall.
11	05.0			Herb – All herbaceous (non-woody) plants, regardless
500/ of total account 40.5		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>42.5</u>	20% 01	total cover:_	17.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 radius)				height.
1. No rooted vines				
2				
3				
4				Hydrophytic
5				Vegetation
	0	= Total Cove	r	Present? Yes No
50% of total cover: 0.0	20% of	total cover:_	0.0	
Remarks: (Include photo numbers here or on a separate sl			500 ′	
ndicator 2 (Dominance Test) present w	ith area	ter than	50% O	t dominant species FA() or wetter:

Indicator 2 (Dominance Test) present with greater than 50% of dominant species FAC or wetter; parameter met. Prevalence Index calculated for reference purposes only.

Profile Desc	ription: (D	escribe t	to the dep	th needed	to docur	ment the i	ndicator	or confirm	the absenc	e of indicators.)
Depth		Matrix			Redo	x Features	3			
(inches)	Color (r		<u>%</u>	Color (r	moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	<u>10YR</u>	4/2	100						SIL	
2-13	10YR	4/2	85	<u>10YR</u>	5/6	_15_	C	M/PL	SICL	
13-18	10YR	4/3	90	10YR	5/6	10	С	M	SIL	
				-			-			
				-			-			
	-									
				-			-		-	
1 _{Type:} C-C	noontration	D-Dool	lotion DM		Motrix M	——— S-Maakad	Sand Cr		² Location:	DI — Doro Lining M—Matrix
¹ Type: C=Co			ietion, Rivi	=Reduced i	viatrix, ivis	5=IVIASKEU	Sand Gr	airis.		PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils ³ :
Histosol				Dar	k Surface	(S7)				2 cm Muck (A10) (MLRA 147)
	oipedon (A2	2)				elow Surfac	ce (S8) (N	ILRA 147,		Coast Prairie Redox (A16)
Black Hi		,				ırface (S9)			, <u>—</u>	(MLRA 147, 148)
Hydroge	n Sulfide (A	A4)		Loa	my Gleye	ed Matrix (I	F2)			Piedmont Floodplain Soils (F19)
	d Layers (At				oleted Ma	. ,				(MLRA 136, 147)
	ick (A10) (L		- (044)			Surface (F				Very Shallow Dark Surface (TF12)
	d Below Dai ark Surface		e (A11)			rk Surface essions (F8				Other (Explain in Remarks)
	lucky Miner		.RR N,			ese Masse		LRR N,		
	147, 148)		,		MLRA 13		, ,	,		
	leyed Matri	x (S4)				ace (F13) (dicators of hydrophytic vegetation and
	edox (S5)					odplain S				vetland hydrology must be present,
	Matrix (S6)			Red	d Parent N	Material (F	21) (MLR	A 127, 147	') u	nless disturbed or problematic.
Restrictive I		served):								
Type:										
Depth (inc	ches):								Hydric So	il Present? Yes No
Remarks:	il indiac	stor E2	(Dople	stad Ma	triv\ n	rocont:	norom	otor m	o t	
Hydric so	III II IUICa	aloi F3	(Debie	eteu ivia	illix) þi	esem,	paran	letel III	Եւ.	

Project/Site: Lost City Solar			City/C	ounty: Muhlenber	g County	Sampling Date: 2024-07-31
Applicant/Owner: Lost City R						cky Sampling Point: DP-042
Investigator(s): I. Bentley,				n, Township, Range:		<u> </u>
Landform (hillslope, terrace, etc						Slone (%): 3-7
						Datum: NAD83
Soil Map Unit Name: Wellst						
				_		
Are climatic / hydrologic conditi						_
						present? Yes No
Are Vegetation, Soil				•	explain any answe	,
SUMMARY OF FINDING	3S – Atta	ch site m	ap showing sam	pling point locati	ons, transects	s, important features, etc.
Hydrophytic Vegetation Prese			_ No	Is the Sampled Area		
Hydric Soil Present?			_ No	within a Wetland?	Yes <u>√</u>	No
Wetland Hydrology Present?		Yes <u>√</u>	_ No			
Remarks:						
All parameters met;						
conducted a due dili						nd determined that
hydrologic condition	s were v	vetter th	an normal at th	ne time of surve	у.	
HYDROLOGY						
Wetland Hydrology Indicato	ors:				Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum	of one is req	uired; check	call that apply)		Surface Soil	_
✓ Surface Water (A1)		•	True Aquatic Plants (B14)		egetated Concave Surface (B8)
✓ High Water Table (A2)			Hydrogen Sulfide Odd		Drainage Pa	
✓ Saturation (A3)				es on Living Roots (C3)		
Water Marks (B1)			Presence of Reduced			Water Table (C2)
Sediment Deposits (B2)			Recent Iron Reductio		✓ Crayfish Bu	
Drift Deposits (B3)			Thin Muck Surface (C	37)	Saturation V	/isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)			Other (Explain in Ren			Stressed Plants (D1)
Iron Deposits (B5)					✓ Geomorphic	
Inundation Visible on Aer	ial Imagery ((B7)			Shallow Aqu	uitard (D3)
Water-Stained Leaves (B						aphic Relief (D4)
Aquatic Fauna (B13)					✓ FAC-Neutra	l Test (D5)
Field Observations:						
Surface Water Present?			Depth (inches): 2			
Water Table Present?			Depth (inches): 1			
Saturation Present? (includes capillary fringe)	Yes <u>√</u>	_ No	Depth (inches): 0	Wetland	Hydrology Prese	nt? Yes No
Describe Recorded Data (stre	am gauge, ı	monitoring w	vell, aerial photos, pre	vious inspections), if av	ailable:	
Remarks:						
At least one primary	or two s	seconda	rv indicators ol	oserved: param	eter met.	
			.,	, , , , , , , , , , , , , , , , , , , ,		

VEGETATION (Four Strata) – Use scientific names of plants

EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-042
T Out (DL) : 20 radius	Absolute			Dominance Test worksheet:
Tree Stratum (Plot size: 30 radius) 1 No rooted trees	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
·· <u>·</u>				That Are OBL, FACW, or FAC:3 (A)
2				Total Number of Dominant
3				Species Across All Strata:3 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
1	0	= Total Cove		Total % Cover of: Multiply by:
50% of total cover:0.0				OBL species <u>20.00</u> x 1 = <u>20.00</u>
Sapling/Shrub Stratum (Plot size: 15 radius)				FACW species <u>20.00</u> x 2 = <u>40.00</u>
1. No rooted saplings/shrubs				FAC species 5.00 x 3 = 15.00
2				FACU species 5.00 x 4 = 20.00
3.				UPL species <u>0.00</u> x 5 = <u>0.00</u>
4				Column Totals: <u>50.00</u> (A) <u>95.00</u> (B)
5				D 1 1 1 D(1 10
6				Prevalence Index = B/A = 1.9
7				Hydrophytic Vegetation Indicators:
8				✓ 1 - Rapid Test for Hydrophytic Vegetation
9				✓ 2 - Dominance Test is >50%✓ 3 - Prevalence Index is ≤3.0¹
	0	= Total Cove	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 0.0	20% of	total cover:	0.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 radius)				Problematic Hydrophytic Vegetation¹ (Explain)
1. Carex frankii	20	<u> </u>	OBL	Problematic Hydrophytic vegetation (Explain)
2. Hypericum mutilum	10	<u>Y</u>	FACW	¹ Indicators of hydric soil and wetland hydrology must
3. Ludwigia alternifolia	10	<u>Y</u>	FACW	be present, unless disturbed or problematic.
4. Acer rubrum	5	<u>N</u>	FAC	Definitions of Four Vegetation Strata:
_{5.} Oxalis dillenii	5	<u>N</u>	<u>FACU</u>	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
50% of total cover: <u>25.0</u>		= Total Cove		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30 radius)	20% 01	total cover.	10.0	Woody vine – All woody vines greater than 3.28 ft in
. No rooted vines				height.
2				
3				
4				Hydrophytic
5	0	= Total Cove		Vegetation Present?
50% of total cover:0.0				
Remarks: (Include photo numbers here or on a separate sl		30.01.		
		t Domir	onco 7	Fact and Provalance Index calculated
Indicator 1 (Rapid Test) present; paramo	etei iiie	וווווטעו .וי	iance i	rest and Frevalence muex calculated
for reference purposes only.				

Profile Desc	cription: (D	escribe t	to the dep	th needed	to docu	ment the i	ndicator	or confirm	the absen	ice of indicators.)
Depth		Matrix			Redo	x Features	3			
(inches)	Color (ı		%	Color (r		%	Type ¹	Loc ²	Texture	Remarks
0-3	10YR	4/2	100						SIL	
3-7	10YR	4/2	90	10YR	5/4	10		M/PL	SIL	
7-12	<u>10YR</u>	5/2	90	<u>10YR</u>	5/4	_10_	C	M	SICL	
	-			-					-	
¹ Type: C=C	oncentration	n, D=Depl	letion, RM	=Reduced I	Matrix, M	S=Masked	Sand Gr	ains.	² Location:	PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:									dicators for Problematic Hydric Soils ³ :
Histosol	(A1)			Dar	k Surface	e (S7)				2 cm Muck (A10) (MLRA 147)
	pipedon (A2	2)					ce (S8) (I	MLRA 147,	148)	Coast Prairie Redox (A16)
	istic (A3)	•				urface (S9)			,	(MLRA 147, 148)
Hydroge	en Sulfide (A	\4)		Loa	my Gley	ed Matrix (F2)			Piedmont Floodplain Soils (F19)
Stratified	d Layers (A	5)		✓ Dep	oleted Ma	trix (F3)				(MLRA 136, 147)
2 cm Mu	uck (A10) (L	.RR N)		Red	dox Dark	Surface (F	6)			Very Shallow Dark Surface (TF12)
	d Below Da		e (A11)			rk Surface				Other (Explain in Remarks)
	ark Surface					essions (F				
	Mucky Miner		.RR N,			ese Masse	es (F12) (LRR N,		
	A 147, 148)				MLRA 13	•			2	
	Gleyed Matri	ix (S4)				ace (F13) (Indicators of hydrophytic vegetation and
	Redox (S5)							(MLRA 14		wetland hydrology must be present,
	d Matrix (S6)			Red	Parent I	Material (F	21) (ML R	A 127, 147	")	unless disturbed or problematic.
Restrictive		served):								
Type: Be										
Depth (in	ches): <u>12</u>								Hydric S	oil Present? Yes No
Remarks:										
Hydric so	oil indica	ator F3	(Deple	eted Ma	trix) p	resent;	paran	neter me	et.	

Project/Site: Lost City Solar	City/County: Muhlenber	g County	Sampling Date: 2024-07-31
Applicant/Owner: Lost City Renewables, LLC		State: Kentuck	y Sampling Point: DP-043
Investigator(s): I. Bentley, S. Davis	Section, Township, Range: N	I/A	
Landform (hillslope, terrace, etc.): Baseslope			Slope (%): 0-2
Subregion (LRR or MLRA): LRR N, MLRA 120A Lai			
Soil Map Unit Name: Wellston silt loam, 12			
Are climatic / hydrologic conditions on the site typical f	_		
Are Vegetation, Soil, or Hydrology			_
Are Vegetation, Soil, or Hydrology		explain any answers	
SUMMARY OF FINDINGS – Attach site r			
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: All parameters met; area is consider	Is the Sampled Area within a Wetland? red a palustrine emergent (PEI	Yes <u>√</u> M) wetland. T	_ No he lead delineator
conducted a due diligence review o hydrologic conditions were wetter the			d determined that
HYDROLOGY	<u> </u>		
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is required; chec Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): 4 Depth (inches): 1 Depth (inches): 0 Wetland	✓ Surface Soil C Sparsely Vege ✓ Drainage Patt Moss Trim Lin Dry-Season W ✓ Crayfish Burro ✓ Saturation Vis Stunted or Str ✓ Geomorphic F Shallow Aquit Microtopograp ✓ FAC-Neutral	Cracks (B6) etated Concave Surface (B8) erns (B10) nes (B16) Vater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) ard (D3) ohic Relief (D4)
Remarks: At least one primary or two seconds	ary indicators observed; param	eter met.	

VEGETATION (Four Strata) – Use scientific names of plants

2 Total Number of Dominant _	(A) (B)
1. No rooted trees That Are OBL, FACW, or FAC: 5 2. Total Number of Dominant Species Across All Strata: 5	(B)
3 Species Across All Strata: 5	. ,
	. ,
Percent of Dominant Species	/ A /D \
5	(A/B)
7. Prevalence Index worksheet:	
0 = Total Cover Total % Cover of: Multiply by:	
50% of total cover: 0.0 20% of total cover: 0.0 OBL species 90.00 x 1 = 90.00	
Sapling/Shrub Stratum (Plot size: 15 radius) FACW species 35.00 x 2 = 70.00	
1. <u>Salix nigra</u> 45 Y OBL FAC species <u>0.00</u> x 3 = <u>0.00</u>	
2. Rosa multiflora 5 N FACU FACU species 5.00 x 4 = 20.00	
3UPL species x 5 =0.00	
	(B)
5 Prevalence Index = B/A = 1.38	
6. Hydrophytic Vegetation Indicators:	
7	
8	
9	
50.0 = Total Cover 4 - Morphological Adaptations (Provide supp	ortina
50% of total cover: 25.0 20% of total cover: 10.0 data in Remarks or on a separate sheet)	3
Herb Stratum (Plot size: 5 radius))
1. Carex Irankii 25 I OBL	,
2. Hypericum mutilum 15 Y FACW ORL Indicators of hydric soil and wetland hydrology me	ıst
3. Carex crinita	
4. Onoclea sensibilis 10 Y FACW Definitions of Four Vegetation Strata:	
5. Typha latifolia 5 N OBL Tree – Woody plants, excluding vines, 3 in. (7.6 ci	m) or
6. Alisma subcordatum 5 N OBL more in diameter at breast height (DBH), regardle	,
7. Bidens aristosa	
8. <u>Dichanthelium scoparium</u> 5 N FACW Sapling/Shrub – Woody plants, excluding vines, l	
9 than 3 in. DBH and greater than or equal to 3.28 f	t (1
11 Herb – All herbaceous (non-woody) plants, regard	lless
80.0 = Total Cover of size, and woody plants less than 3.28 ft tall.	
Woody Vine Stretum (Plot circ) 30 radius Woody vine – All woody vines greater than 3.28 f	t in
Woody Vine Stratum (Plot size: 30 radius) height.	
2.	
3.	
4.	
5 Hydrophytic Vegetation	
0 = Total Cover Present? Yes <u>√</u> No	
50% of total cover: 20% of total cover: 0.0	
Remarks: (Include photo numbers here or on a separate sheet.)	

Indicator 1 (Rapid Test) present; parameter met. Dominance Test and Prevalence Index calculated for reference purposes only.

Profile Desc	ription: (Describe t	o the dep	th needed to do	cument the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix		R	edox Features	8			
(inches)	Color (moist)	%	Color (moist)		_Type ¹	Loc ²	Texture	Remarks
0-2	10YR 5/1	100					SIL	
2-18	10YR 5/1	90	10YR 5/6	3 10	С	M/PL	SICL	
2-10	1011 3/1	_90_	101K 3/0	10		IVI/ F L	SICL	-
					-			
					-			
					-			
	oncentration, D=Depl	etion, RM:	Reduced Matrix	, MS=Masked	Sand Gr	ains.		L=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indica	ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Sur	face (S7)			2	cm Muck (A10) (MLRA 147)
Histic Ep	pipedon (A2)		Polyvalue	e Below Surface	ce (S8) (I	VILRA 147,	148) C	coast Prairie Redox (A16)
Black Hi	stic (A3)		Thin Dar	k Surface (S9)	(MLRA	147, 148)		(MLRA 147, 148)
Hydroge	n Sulfide (A4)		Loamy G	leyed Matrix (F2)		P	iedmont Floodplain Soils (F19)
Stratified	Layers (A5)		✓ Depleted	Matrix (F3)				(MLRA 136, 147)
2 cm Mu	ck (A10) (LRR N)		Redox D	ark Surface (F	6)		V	ery Shallow Dark Surface (TF12)
Depleted	Below Dark Surface	(A11)	Depleted	Dark Surface	(F7)		C	other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox D	epressions (F	3)			
Sandy M	lucky Mineral (S1) (L	RR N,	Iron-Man	ganese Masse	es (F12) (LRR N,		
MLRA	147, 148)		MLRA	136)				
Sandy G	leyed Matrix (S4)		Umbric S	urface (F13) (MLRA 13	36, 122)	³ Ind	icators of hydrophytic vegetation and
	edox (S5)			t Floodplain S				tland hydrology must be present,
	Matrix (S6)			ent Material (F				less disturbed or problematic.
	ayer (if observed):				, ,		<u>,</u>	·
Type:	,							
	shoo).		<u></u>				Usalvia Cail	Dracont2 Vac / No
Depth (inc	nes).						nyaric Soil	Present? Yes No
Remarks:	:: ::: ::: =	/D I -	. 4 1 1 1 - 4 - 1 - 1				- 4	
Hydric sc	il indicator F3	(реріє	eted Matrix)	present;	paran	neter me	et.	

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-07-31
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-044
Investigator(s): I. Bentley, S. Davis	Section, Township, Range: N/A
	Local relief (concave, convex, none): Convex Slope (%): 3-7
	15 Long: -86.967467 Datum: NAD83
Soil Map Unit Name: Wellston silt loam, 12 to 20 per	
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrology significan	_
Are Vegetation, Soil, or Hydrology naturally	
	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓	— Is the Sampled Area — within a Wetland? Yes No✓
	considered a definitional wetland. The lead delineator ecedent Precipitation Tool (APT) and determined that all at the time of survey.
HYDROLOGY	
Water Marks (B1) Presence of	c Plants (B14) Sparsely Vegetated Concave Surface (B8) ulfide Odor (C1) Drainage Patterns (B10) izospheres on Living Roots (C3) Moss Trim Lines (B16) Reduced Iron (C4) Dry-Season Water Table (C2) Reduction in Tilled Soils (C6) Crayfish Burrows (C8) surface (C7) Saturation Visible on Aerial Imagery (C9)
Surface Water Present? Yes No _ ✓ Depth (inch Water Table Present? Yes No _ ✓ Depth (inch	es):
Saturation Present? Yes No _ ✓ Depth (inch (includes capillary fringe)	es): Wetland Hydrology Present? Yes No_ ✓
Describe Recorded Data (stream gauge, monitoring well, aerial ph	otos, previous inspections), if available:
Remarks: Indicators of wetland hydrology absent; paral	meter lacking.

EGETATION (Four Strata) – Use scientific na	ames or	piants.		Sampling Point: DP-044
20	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30 radius)	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees				That Are OBL, FACW, or FAC:0 (A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)
6				That Ale OBE, I AOW, OI I AO.
7				Prevalence Index worksheet:
	_	= Total Cov		Total % Cover of: Multiply by:
50% of total cover: 0.0				OBL species 0.00 x 1 = 0.00
Sapling/Shrub Stratum (Plot size: 15 radius)	2070 01	total oover.	0.0	FACW species0.00 x 2 =0.00
A No rested conlings (shrubs				FAC species $0.00 \times 3 = 0.00$
				FACU species $0.00 \times 4 = 0.00$
2				UPL species $10.00 \times 5 = 50.00$
3				40.00
4				Column Totals: 10.00 (A) 50.00 (B)
5				Prevalence Index = $B/A = 5.0$
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				
9.				2 - Dominance Test is >50%
	0	= Total Cov	er	3 - Prevalence Index is ≤3.01
50% of total cover:0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5 radius)				data in Remarks or on a separate sheet)
Of t	10	Υ	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
2				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree Meady plants avaluding vines 2 in (7.6 cm) or
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				Cardina/Chards Manda along and discussions loss
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Heat. All heat account for a constant of the c
	10.0	= Total Cov	or	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:5.0				
Woody Vine Stratum (Plot size:30 radius)	_			Woody vine – All woody vines greater than 3.28 ft in
. No rooted vines				height.
"				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cov		Present? Yes No
50% of total cover: 0.0	20% of	total cover:	0.0	
Remarks: (Include photo numbers here or on a separate s	heet.)			
ndicators of hydrophytic vegetation abs	ent: pa	rameter	lacking	d.
i i i i i i i i i i i i i i i i i i i	, pu			,
Data point taken within planted assistant	field N	laturalli		ring vagatation about
Date point taken within planted soybear	i ileia. I	vaturally	/-occur	mig vegetation absent.

Profile Desc	cription: (Describe	e to the depth	needed to document the indicate	or or confirm	the absence of	of indicators.)	
Depth	Matrix		Redox Features				
(inches)	Color (moist)	%	Color (moist) % Type	Loc ²	Texture	Remarks	
0-18	10YR 4/4	100			SIL		
							_
							
							
					_		
-							
¹ Type: C=C	oncentration, D=De	pletion, RM=F	Reduced Matrix, MS=Masked Sand	Grains.		=Pore Lining, M=Matrix.	
Hydric Soil	Indicators:				Indicat	tors for Problematic Hydric Se	oils³:
Histosol	(A1)		Dark Surface (S7)		2 0	cm Muck (A10) (MLRA 147)	
	oipedon (A2)		Polyvalue Below Surface (S8)	(MLRA 147, 1		past Prairie Redox (A16)	
	stic (A3)		Thin Dark Surface (S9) (MLRA			(MLRA 147, 148)	
	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	, -,		edmont Floodplain Soils (F19)	
	d Layers (A5)		Depleted Matrix (F3)			(MLRA 136, 147)	
	uck (A10) (LRR N)		Redox Dark Surface (F6)			ry Shallow Dark Surface (TF12)
	d Below Dark Surfa	ce (A11)	Depleted Dark Surface (F7)			her (Explain in Remarks)	′
	ark Surface (A12)	(****)	Redox Depressions (F8)			(=- р - ш - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
	Mucky Mineral (S1)	(LRR N.	Iron-Manganese Masses (F12	LRR N.			
	A 147, 148)	(=,	MLRA 136)	, (=::::,			
	Gleyed Matrix (S4)		Umbric Surface (F13) (MLRA	136, 122)	³ Indic	cators of hydrophytic vegetation	and
	Redox (S5)		Piedmont Floodplain Soils (F1			and hydrology must be present	
	Matrix (S6)		Red Parent Material (F21) (MI			ess disturbed or problematic.	.,
	Layer (if observed	١٠	Rea r arent Material (121) (Mil	121, 141)	dilic	233 disturbed of problematic.	
	-						
							,
Depth (in	ches):		<u> </u>		Hydric Soil F	Present? Yes No _	✓
Remarks:	ail indicators	aheant: n	arameter lacking.				
riyunc sc	JII IIIUICAIOIS	absent, p	arameter lacking.				

Project/Site: Lost City Solar	City/County: Muhlenber	g County s	ampling Date: 2024-07-31		
Applicant/Owner: Lost City Renewables, LLC					
Investigator(s): I. Bentley, S. Davis	Section, Township, Range: N	J/A			
Landform (hillslope, terrace, etc.): Flat	Slope (%): 0-2				
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.0	Datum: NAD83				
Soil Map Unit Name: Zanesville silt loam, 2 to 6			on: None		
Are climatic / hydrologic conditions on the site typical for this t					
Are Vegetation, Soil, or Hydrologysig			_		
Are Vegetation, Soil, or Hydrology nat					
SUMMARY OF FINDINGS – Attach site map sl					
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes No_ No_	within a Wetland?	Yes	No <u>√</u>		
Remarks:					
One or more parameters lacking; area is conducted a due diligence review of the hydrologic conditions were wetter than n	Antecedent Precipitation 7	Γool (APT) and			
HYDROLOGY					
Wetland Hydrology Indicators:		` <u> </u>	rs (minimum of two required)		
Primary Indicators (minimum of one is required; check all that		Surface Soil Cracks (B6)			
	quatic Plants (B14) gen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B8)Drainage Patterns (B10)			
	ed Rhizospheres on Living Roots (C3)				
	nce of Reduced Iron (C4)	Noss Till Lines (BT6) Dry-Season Water Table (C2)			
	t Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)			
	luck Surface (C7)		ole on Aerial Imagery (C9)		
	(Explain in Remarks)		ssed Plants (D1)		
Iron Deposits (B5)		✓ Geomorphic Po	` '		
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitar			
Water-Stained Leaves (B9)Aquatic Fauna (B13)		Microtopograph FAC-Neutral Te			
Field Observations:		FAC-Neutral Te	est (D5)		
Surface Water Present? Yes No _ ✓ Depth	(inches):				
Water Table Present? Yes No _✓ Depth	, , ,				
Saturation Present? Yes No ✓ Depth		Hydrology Present?	Yes No ✓		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, ae	nai photos, previous inspections), if av	allable:			
Remarks:					
No primary and only one secondary indic	ator of wetland hydrology	present; para	meter lacking.		

EGETATION (Four Strata) – Use scientific na		<u> </u>		Sampling Point: DP-045
Free Stratum (Plot size: 30 radius)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Acer rubrum	60	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
2. Liriodendron tulipifera	30	<u> </u>	FACU	That Ale OBL, FACW, of FAC.
<u>Ellioderial of Taliphera</u>		·'	17100	Total Number of Dominant Species Across All Strata: 5 (B)
D				Species Across All Strata:5 (B)
*·				Percent of Dominant Species
D				That Are OBL, FACW, or FAC: 80.00 (A/B)
7.				Prevalence Index worksheet:
· <u> </u>	00.0	= Total Cove		Total % Cover of: Multiply by:
50% of total cover: 45.0				OBL species0.00 x 1 =0.00
Sapling/Shrub Stratum (Plot size: 15 radius)	20 /0 01	total cover.	10.0	FACW species 5.00 x 2 = 10.00
1. Ulmus rubra	15	Υ	FAC	FAC species 153.00 x 3 = 459.00
2. Liquidambar styraciflua	8	<u> </u>	FAC	FACU species 42.00 x 4 = 168.00
3. Acer rubrum	5		FAC	UPL species 0.00 x 5 = 0.00
4. Rubus argutus	2	N	FACU	Column Totals: 200.00 (A) 637.00 (B)
A. Trabad digatad			17100	
J				Prevalence Index = B/A = 3.19
7				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
D		·		✓ 2 - Dominance Test is >50%
o	30.0	= Total Cove		3 - Prevalence Index is ≤3.0 ¹
50% of total cover:15.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5 radius)			0.0	data in Remarks or on a separate sheet)
Microstegium vimineum	60	Υ	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
Ligustrum sinense	10	N	FACU	
3. Solidago rugosa	5		FAC	¹ Indicators of hydric soil and wetland hydrology must
4. Boehmeria cylindrica	5	N	FACW	be present, unless disturbed or problematic.
·· <u> </u>				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
				Thoight.
				Sapling/Shrub – Woody plants, excluding vines, less
10				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11.				
	80.0	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 40.0				
Noody Vine Stratum (Plot size: 30 radius)		-		Woody vine – All woody vines greater than 3.28 ft in height.
No rooted vines				neight.
2.				
3.				
4.				
5.				Hydrophytic Vegetation
	0	= Total Cove	er	Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
Indicator 2 (Dominance Test) present with greater than 50% of dominant species FAC or wetter; parameter met. Prevalence Index calculated for reference purposes only.

50% of total cover: 0.0 20% of total cover: 0.0

Profile Desc	ription: (Describe t	o the dep	th needed to do	cument the i	ndicator	or confirm	n the absence	of indicators.)	
Depth	Matrix		Re	edox Features	S				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	rks
0-4	10YR 4/6	100					SIL		
4-18	10YR 4/6	95	10YR 5/6	5	С	M	SIL		
4-10	1011 4/0	95	1011 3/0			IVI	- SIL		
				-	-	· ——			
							-		
4				_	-		2		
	oncentration, D=Depl	etion, RM:	=Reduced Matrix,	MS=Masked	Sand Gr	ains.		L=Pore Lining, M=Ma	
Hydric Soil I								ators for Problemati	-
Histosol	, ,		Dark Surf					cm Muck (A10) (MLF	
Histic Ep	pipedon (A2)		Polyvalue	Below Surfa	ce (S8) (N	/ILRA 147,	. 148) C	Coast Prairie Redox (A	A16)
Black Hi	stic (A3)		Thin Dark	Surface (S9)	(MLRA 1	147, 148)		(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gl	eyed Matrix (F2)		P	riedmont Floodplain S	Soils (F19)
	d Layers (A5)			Matrix (F3)				(MLRA 136, 147)	
	ick (A10) (LRR N)			rk Surface (F	,			ery Shallow Dark Su	
	d Below Dark Surface	(A11)		Dark Surface			C	other (Explain in Rem	arks)
	ark Surface (A12)			pressions (F					
	lucky Mineral (S1) (L	RR N,		ganese Mass	es (F12) (LRR N,			
	\ 147, 148)		MLRA						
	lleyed Matrix (S4)		Umbric St					icators of hydrophytic	-
	edox (S5)			Floodplain S				tland hydrology must	be present,
Stripped	Matrix (S6)		Red Pare	nt Material (F	21) (MLR	A 127, 147	7) un	less disturbed or prob	olematic.
Restrictive I	ayer (if observed):								
Type:									
Depth (inc	ches):						Hydric Soil	Present? Yes	No <u>√</u>
Remarks:							1 -		
	oil indicators al	osent:	parameter la	acking.					
.,		,							

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-07-31						
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-046						
Investigator(s): I. Bentley, S. Davis	Section, Township, Range: N/A						
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3-7							
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37							
	percent slopes NWI classification: None						
	s time of year? Yes No ✓ (If no, explain in Remarks.)						
	ignificantly disturbed? Are "Normal Circumstances" present? Yes✓ No						
Are Vegetation, Soil, or Hydrology n							
	showing sampling point locations, transects, important features, etc.						
Hydric Soil Present? Wetland Hydrology Present? Yes ✓ No No Remarks:	Is the Sampled Area within a Wetland? Yes ✓ No a palustrine emergent (PEM) wetland. The lead delineator						
· ·	Antecedent Precipitation Tool (APT) and determined that						
HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all t							
	Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8)						
	rogen Sulfide Odor (C1) Drainage Patterns (B10) lized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)						
	lized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Lence of Reduced Iron (C4) Dry-Season Water Table (C2)						
	ent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)						
	Muck Surface (C7) Saturation Visible on Aerial Imagery (C9)						
	er (Explain in Remarks) Stunted or Stressed Plants (D1)						
Iron Deposits (B5)	✓ Geomorphic Position (D2)						
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)						
Water-Stained Leaves (B9)	Microtopographic Relief (D4)						
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)						
Field Observations: Surface Water Present? Yes No _✓ Dep	oth (inches):						
Water Table Present? Yes No _ ✓ _ Dep	· /						
Saturation Present? Yes No _ ✓ _ Dep							
(includes capillary fringe)							
Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous inspections), if available:						
Remarks: At least one primary or two secondary i	ndicators observed: parameter met						
The least one primary of two secondary i	ndicators observed, parameter met.						

VEGETATION (Four Strata) – Use scientific names of plants

VEGETATION (Four Strata) – Use scientific na	Sampling Point: DP-046			
	Absolute			Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30 radius</u>) 1. <u>No rooted trees</u>		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				
		= Total Cove		
50% of total cover: 0.0	20% of	total cover:_	0.0	OBL species 15.00 x 1 = 15.00
Sapling/Shrub Stratum (Plot size: 15 radius)				FACW species 50.00 x 2 = 100.00
1. No rooted saplings/shrubs				FAC species $0.00 \times 3 = 0.00$
2				FACU species $0.00 \times 4 = 0.00$
3				UPL species <u>0.00</u> x 5 = <u>0.00</u>
4				Column Totals: <u>65.00</u> (A) <u>115.00</u> (B)
5				Prevalence Index = B/A = 1.77
6				
7				Hydrophytic Vegetation Indicators:
8				✓ 1 - Rapid Test for Hydrophytic Vegetation
9				✓ 2 - Dominance Test is >50%
<u> </u>	0	= Total Cove		✓ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover:0.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5 radius)				data in Remarks or on a separate sheet)
1. Juncus effusus	35	Υ	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Carex frankii	15	Y	OBL	
3. Eupatorium perfoliatum	10		FACW	¹ Indicators of hydric soil and wetland hydrology must
4. Cyperus strigosus	5	N	FACW	be present, unless disturbed or problematic.
			171011	Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>32.5</u>	20% of	total cover:_	13.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 radius)				height.
1. No rooted vines				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cove		Present? Yes <u>√</u> No
50% of total cover: 0.0				
Remarks: (Include photo numbers here or on a separate sl	neet.)			1
Indicator 1 (Rapid Test) present with all		ant speci	es FAC	CW or OBL parameter met
Dominance Test and Prevalence Index				
Domination 100t and 1 tovalories mask	Jaioulai	COUNTRY TO THE		o parpodod drily

US Army Corps of Engineers

Profile Desc	cription: (D	escribe t	o the dep	th needed	to docu	ment the ii	ndicator	or confirm	the abse	nce of indicators.)
Depth	oth Matrix Redox Features									
(inches)	Color (r		%	Color (r		<u>%</u>	Type ¹	Loc ²	Texture	e Remarks
0-3	10YR	4/2	100						SIL	
3-10	10YR	4/2	85	10YR	5/6	15		M/PL	SIL	
								. — —		
10-18	<u>10YR</u>	4/3	90	<u>10YR</u>	5/6	_10_	C	M_	SIL	
				-						
				-						
				-						
¹Type: C=C	oncentration	n D=Denl	etion RM:	=Reduced I	Matrix M	S=Masked	Sand Gr	ains	² Location	n: PL=Pore Lining, M=Matrix.
Hydric Soil			Otion, rtivi	-110000001	viatrix, ivi	0-Maskea	Odrid Oi	unio.		dicators for Problematic Hydric Soils ³ :
Histosol				Dor	k Surface	o (97)				_ 2 cm Muck (A10) (MLRA 147)
	pipedon (A2	1					o (S8) (I	MLRA 147,		Coast Prairie Redox (A16)
	istic (A3)	.,				urface (S9)	. , .		0/ _	(MLRA 147, 148)
	en Sulfide (A	(4)				ed Matrix (I		147, 140)		Piedmont Floodplain Soils (F19)
	d Layers (A	,		·	oleted Ma	•	2)		_	(MLRA 136, 147)
	uck (A10) (L					Surface (F	6)			Very Shallow Dark Surface (TF12)
	d Below Dai		e (A11)			rk Surface			_	_ Other (Explain in Remarks)
	ark Surface		(,			essions (F8			_	
	/lucky Miner		RR N,			ese Masse		LRR N.		
	A 147, 148)		,		MLRA 13		, ,	,		
	Sleyed Matri					ace (F13) (MLRA 13	36, 122)		³ Indicators of hydrophytic vegetation and
	Redox (S5)	` '						(MLRA 14		wetland hydrology must be present,
	d Matrix (S6))						À 127, 147		unless disturbed or problematic.
Restrictive	Layer (if ob	served):								-
Type:										
	ches):								Hydric	Soil Present? Yes No
Remarks:	onco)								Tiyano	3011 1 C30111. 1 C3 <u>v</u> 1 C3 <u>v</u>
Hydric so	oil indica	tor E3	(Donle	tod Ma	triv) n	rocont:	naran	notor m	ot	
riyunc so	JII II IUICE	iloi i 3	(Debie	steu ivia	uix) p	i eserit,	paran	ictel III	σ ι.	

Project/Site: Lost City Solar	City/County: Muhler	nberg County Sa	ampling Date: 2024-07-31				
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-047						
Investigator(s): I. Bentley, S. Davis							
Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0							
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.0841							
Soil Map Unit Name: Belknap silt loam, 0 to 2 percent s	<u> </u>		<u> </u>				
Are climatic / hydrologic conditions on the site typical for this time of		<u></u>					
Are Vegetation, Soil, or Hydrology significar			_				
Are Vegetation, Soil, or Hydrology naturally							
SUMMARY OF FINDINGS – Attach site map showi							
Hydrophytic Vegetation Present? Yes No ✓							
Hydric Soil Present? Yes No_ ✓	Is the Sampled		/				
Wetland Hydrology Present? Yes No_ ✓	within a Wetlan	nd? Yes	No <u>▼</u>				
Remarks:							
One or more parameters lacking; area is not	considered a defi	initional wetland. Th	ne lead delineator				
conducted a due diligence review of the Ante							
hydrologic conditions were wetter than norm							
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary Indicators	s (minimum of two required)				
Primary Indicators (minimum of one is required; check all that app	ly)	Surface Soil Cra	·				
Surface Water (A1) True Aquation	c Plants (B14)		ated Concave Surface (B8)				
	ulfide Odor (C1)	Drainage Patterr					
Saturation (A3) Oxidized Rh	izospheres on Living Roots	ts (C3) Moss Trim Lines	s (B16)				
Water Marks (B1) Presence of	Reduced Iron (C4)	Dry-Season Wat	ter Table (C2)				
Sediment Deposits (B2) Recent Iron	Reduction in Tilled Soils (0						
Drift Deposits (B3) Thin Muck S			e on Aerial Imagery (C9)				
Algal Mat or Crust (B4) Other (Expla	ain in Remarks)	Stunted or Stres					
Iron Deposits (B5)		✓ Geomorphic Pos					
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard					
Water-Stained Leaves (B9)		Microtopographi					
Aquatic Fauna (B13)		FAC-Neutral Tes	St (D5)				
Field Observations: Surface Water Present? Yes No _✓ Depth (inch	nes).						
Water Table Present? Yes No _ ✓ Depth (inch							
Saturation Present? Yes No _ ✓ Depth (inch		etland Hydrology Present?	Yes No_ ✓				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial ph	,						
Describe Recorded Data (Stream gauge, monitoring well, aeriai pr	lotos, previous irispections), ii avallable.					
Remarks: No primary and only one secondary indicato	r of wetland hydro	logy present: parar	neter lacking				
Two primary and only one secondary indicate	or welland riyaro	nogy present, paran	notor lacking.				

EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-047
	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:30 radius)		Species?		Number of Dominant Species
1. Acer rubrum	40	<u> </u>	FAC	That Are OBL, FACW, or FAC:3 (A)
2. Aesculus flava		<u>Y</u>	FACU	Total Number of Dominant
3. <u>Liquidambar styraciflua</u>	10	N	FAC	Species Across All Strata: 9 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 33.33 (A/B)
6				
7				Prevalence Index worksheet:
	70.0	= Total Cove	er	Total % Cover of: Multiply by:
50% of total cover: <u>35.0</u>	20% of	total cover:	14.0	OBL species 0.00 $\times 1 = 0.00$
Sapling/Shrub Stratum (Plot size: 15 radius)				FACW species 0.00 $\times 2 = 0.00$
1. Fagus grandifolia		<u>Y</u>	<u>FACU</u>	FAC species 67.00 x 3 = 201.00
2. Cornus florida	15	<u> </u>	<u>FACU</u>	FACU species 90.00 x 4 = 360.00
3	-			UPL species <u>0.00</u> x 5 = <u>0.00</u>
4				Column Totals: <u>157.00</u> (A) <u>561.00</u> (B)
5				Prevalence Index = B/A = 3.57
6				
7				Hydrophytic Vegetation Indicators:
8				1 - Rapid Test for Hydrophytic Vegetation
9.				2 - Dominance Test is >50%
<u> </u>	35.0	= Total Cove	er	3 - Prevalence Index is ≤3.0 ¹
50% of total cover:17.5				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5 radius)		•		data in Remarks or on a separate sheet)
1. Fagus grandifolia	10	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Smilax rotundifolia	10	Y	FAC	
3. Polystichum acrostichoides	10	Y	FACU	¹ Indicators of hydric soil and wetland hydrology must
4. Amphicarpaea bracteata	5	N	FAC	be present, unless disturbed or problematic.
5. Carya ovata	5	N	FACU	Definitions of Four Vegetation Strata:
6. Liriodendron tulipifera		N	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
_			17100	more in diameter at breast height (DBH), regardless of
/	-			height.
o 9.				Sapling/Shrub – Woody plants, excluding vines, less
·				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				
11				Herb – All herbaceous (non-woody) plants, regardless
50% of total cover: 22.5		= Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30 radius)	2070 01	total cover.	0.0	Woody vine – All woody vines greater than 3.28 ft in
1. Parthenocissus quinquefolia	5	Υ	FACU	height.
2. Toxicodendron radicans	2	<u> </u>	FAC	
		· 	170	
3				
4	-	·		Hydrophytic
5				Vegetation Present? Yes No _ ✓
500/ // / 0.5		= Total Cove		rieseitt: iesNO
50% of total cover: 3.5		total cover:	1.4	
Remarks: (Include photo numbers here or on a separate s Indicators of hydrophytic vegetation abs		rameter	lacking] .

Profile Desc	cription: (De	escribe t	o the dep	th needed to docu	ment the i	ndicator	or confirn	n the ab	sence of indica	tors.)	
Depth		Matrix			x Feature		. 2	_			
(inches)	Color (n		%	Color (moist)	%	Type'	Loc ²		ture	Remarks	3
0-18	10YR	4/4	100					S	<u> L</u>		
								-			
	-										
	-			·							
Type: C-C	oncentration	D-Deni	etion RM-	Reduced Matrix, M	S-Masker	I Sand Gra	aine	² Loca	tion: PL=Pore Li	ning M-Matri	
	Indicators:	i, D-Depi	Guori, ixivi-	-reduced Matrix, M	0-Masket	i Sand Gre	ı II I I I I I I I I I I I I I I I I I	Luca	Indicators for		
Histosol				Dark Surface	(97)				2 cm Muck		•
	(AT) pipedon (A2)	١		Dark Surface		CO (SQ) /M	II D A 147	1/12\	2 cm wuck		
	istic (A3)	,		Polyvalue Be				, 140)			٠)
		4)					47, 140)			147, 148) Jaadalain Cail	lo (F10)
	en Sulfide (A d Layers (A5			Loamy Gleye		r 2)			· 	loodplain Soil	is (F 19)
		•		Depleted Ma		-0\				136, 147)	(TE40)
	ıck (A10) (Li		(111)	Redox Dark						ow Dark Surfa	
	d Below Dar		(A11)	Depleted Da					Other (Exp	lain in Remark	(8)
	ark Surface (DD N	Redox Depre			DD N				
	Mucky Minera	ai (S1) (L	KK N,	Iron-Mangan		es (F12) (1	LKK N,				
	A 147, 148)	(C.4)		MLRA 13		MI DA 40	C 400\		311:		
	Bleyed Matrix	x (54)		Umbric Surfa				40)	³ Indicators of		-
	Redox (S5)									rology must be	
	Matrix (S6)			Red Parent I	viateriai (F	21) (MLR.	A 127, 14	/)	uniess distu	bed or proble	matic.
Restrictive	Layer (if ob	served):									
Type:											
Depth (in	ches):							Hydı	ric Soil Present?	Yes	No <u>√</u> _
Remarks:											
Hydric so	oil indica	tors al	bsent; ן	oarameter lac	king.						

Project/Site: Lost City Solar	City/County: Muhlenberg Co	ounty	Sampling Date: 2024-08-01		
Applicant/Owner: Lost City Renewables, LLC		_ State: KY	Sampling Point: DP-048		
Investigator(s): I. Bentley, S. Davis					
Landform (hillslope, terrace, etc.): Baseslope			Slope (%): 0-2		
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat:	37.082945 Long: -86	6.971718	Datum: NAD83		
Soil Map Unit Name: Wellston silt loam, 6 to 12 pe					
Are climatic / hydrologic conditions on the site typical for					
Are Vegetation, Soil, or Hydrology			_		
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach site m					
· ·	No is the Sampled Area within a Wetland?		_ No✓		
conducted a due diligence review of hydrologic conditions were wetter th	the Antecedent Precipitation T	ool (APT) ar			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)		
Primary Indicators (minimum of one is required; check	all that apply)	Surface Soil	Cracks (B6)		
	True Aquatic Plants (B14)		getated Concave Surface (B8)		
	Hydrogen Sulfide Odor (C1)	✓ Drainage Pat			
	Oxidized Rhizospheres on Living Roots (C3)				
	Presence of Reduced Iron (C4)		Water Table (C2)		
	Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7)	Crayfish Burr	sible on Aerial Imagery (C9)		
	Thin Muck Surface (C7) Other (Explain in Remarks)		ressed Plants (D1)		
Iron Deposits (B5)	Other (Explain in Remarks)	✓ Geomorphic			
Inundation Visible on Aerial Imagery (B7)			` '		
Water-Stained Leaves (B9)		Shallow Aquitard (D3)Microtopographic Relief (D4)			
Aquatic Fauna (B13)		✓ FAC-Neutral			
Field Observations:					
Surface Water Present? Yes _ ✓ No					
	Depth (inches):		_		
Saturation Present? Yes _ ✓ No	Depth (inches): 0 Wetland I	Hydrology Presen	t? Yes <u>√</u> No		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring w	vell, aerial photos, previous inspections), if ava	ailable:			
Remarks:					
At least one primary or two seconda	ry indicators observed; parame	eter met.			

VEGETATION (Four Strata) – Use scientific names of plants

EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-048
	Absolute			Dominance Test worksheet:
	% Cover	Species?	Status	Number of Dominant Species
1. No rooted trees				That Are OBL, FACW, or FAC:2 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
500/ of total access 0.0		= Total Cove		OBL species x 1 = 5.00
50% of total cover: 0.0	20% 01	total cover	0.0	FACW species 15.00 x 2 = 30.00
Sapling/Shrub Stratum (Plot size: 15 radius) 1. No rooted saplings/shrubs				FAC species 45.00 x 3 = 135.00
-				FACU species 5.00 x 4 = 20.00
2				UPL species 0.00 x 5 = 0.00
3				Column Totals: 70.00 (A) 190.00 (B)
4				Column rotals.
5				Prevalence Index = B/A = 2.71
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9	0 :	T-1-1-0		✓ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 0.0		= Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5 radius)	20 /6 01	total cover	0.0	data in Remarks or on a separate sheet)
1. Microstegium vimineum	45	Υ	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Juncus effusus	15	Y	FACW	
3. Carex vulpinoidea	5	N	OBL	¹ Indicators of hydric soil and wetland hydrology must
4. Solidago canadensis	5	N	FACU	be present, unless disturbed or problematic.
5				Definitions of Four Vegetation Strata:
6.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				neight.
9.				Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11				
··· <u>·</u>		= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 35.0				
Woody Vine Stratum (Plot size:30 radius)	_	_		Woody vine – All woody vines greater than 3.28 ft in height.
1. No rooted vines				neight.
2				
3				
4				
5				Hydrophytic Vegetation
* <u></u>		= Total Cove	r	Present? Yes <u>√</u> No
50% of total cover:0.0				
Remarks: (Include photo numbers here or on a separate sl				I
Indicator 2 (Dominance Test) present w	th grea	ter than	50% o	f dominant species FAC or wetter;
parameter met. Prevalence Index calcul				
				•

Profile Desc	ription: (D	Describe t	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth		Matrix			Redo	x Features	8			
(inches)	Color (ı	moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-6	<u>10YR</u>	5/3	90	<u>10YR</u>	5/6	_10_	C_	M/PL	SIL	Rocky
6-18	10YR	6/6	90	5YR	5/6	10	С	M	SIL	
	-		-	-			-	-		
				-						
	-			-			-			
										
	•						•			
			-							
	-						-			
¹ Type: C=Co			etion, RM	=Reduced	Matrix, MS	S=Masked	Sand Gr	ains.		L=Pore Lining, M=Matrix.
Hydric Soil										ators for Problematic Hydric Soils ³ :
Histosol	. ,				k Surface		(cm Muck (A10) (MLRA 147)
	oipedon (A2	2)						/ILRA 147,	148) C	Coast Prairie Redox (A16)
Black Hi	stic (A3) en Sulfide (<i>F</i>	\				rface (S9) ed Matrix (I		147, 148)	В	(MLRA 147, 148) Piedmont Floodplain Soils (F19)
	d Layers (A				oleted Ma		F2)			(MLRA 136, 147)
	ick (A10) (L					Surface (F	6)		V	ery Shallow Dark Surface (TF12)
	d Below Da		e (A11)			k Surface				Other (Explain in Remarks)
Thick Da	ark Surface	(A12)				ssions (F8				
	lucky Miner		.RR N,			ese Masse	es (F12) (LRR N,		
	A 147, 148)				MLRA 13				•	
	Sleyed Matr	ix (S4)				ce (F13) (licators of hydrophytic vegetation and
	Redox (S5)	`						(MLRA 14		etland hydrology must be present,
Restrictive I	Matrix (S6)			Re	a Parent N	/laterial (F	21) (WLR	A 127, 147) un	less disturbed or problematic.
	- I \								11-1-1-1-0-11	Durando Var
	ches):								Hydric Soil	Present? Yes No
Remarks: Hydric so	sil indica	otore o	hoont:	narama	tor loc	kina				
nyunc sc	JII II IUICa	alois a	bsent,	parame	ilei iac	Kirig.				

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Lost City Solar	City/County: Muhlenberg Co	ounty	Sampling Date: 2024-08-01		
Applicant/Owner: Lost City Renewables, LLC					
Investigator(s): I. Bentley, S. Davis					
Landform (hillslope, terrace, etc.): Hillslope	Local relief (concave, convex, nor	ne): Convex	Slope (%): 3-7		
Subregion (LRR or MLRA): LRR N, MLRA 120A La			Datum: NAD83		
Soil Map Unit Name: Wellston silt loam, 6 to 12 p					
Are climatic / hydrologic conditions on the site typical					
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach site					
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sampled Area				
	No /	Vaa	No <u>√</u>		
	No✓ within a Wetland?	res	NO <u>Y</u>		
Remarks:					
One or more parameters lacking; a	rea is not considered a definition	nal wetland.	The lead delineator		
conducted a due diligence review of					
hydrologic conditions were wetter t					
, ,					
HYDROLOGY		0 1 1 1' -	-1 (
Wetland Hydrology Indicators:		-	ators (minimum of two required)		
Primary Indicators (minimum of one is required; che		Surface Soil Cracks (B6)			
	True Aquatic Plants (B14)		egetated Concave Surface (B8)		
	Hydrogen Sulfide Odor (C1)Oxidized Rhizospheres on Living Roots (C3)		atterns (B10)		
	Presence of Reduced Iron (C4)		Water Table (C2)		
	Recent Iron Reduction in Tilled Soils (C6)	Crayfish Bu			
Drift Deposits (B3)	Thin Muck Surface (C7)		/isible on Aerial Imagery (C9)		
	Other (Explain in Remarks)		Stressed Plants (D1)		
Iron Deposits (B5)	_ ,		Position (D2)		
Inundation Visible on Aerial Imagery (B7)		Shallow Aqu	uitard (D3)		
Water-Stained Leaves (B9)		Microtopogr	aphic Relief (D4)		
Aquatic Fauna (B13)		FAC-Neutra	l Test (D5)		
Field Observations:					
	Depth (inches):				
	Depth (inches):				
Saturation Present? Yes No <u>✓</u> (includes capillary fringe)	Depth (inches): Wetland F	Hydrology Prese	nt? Yes No✓		
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspections), if ava	nilable:			
Remarks: Indicators of wetland hydrology abs	sent: parameter lacking.				
maleatere et metaria ny arelegy abt	ooni, paramoter raening.				

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

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-049
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 radius)	% Cover	Species?	Status	Number of Dominant Species
1. Nyssa sylvatica	30	Y	FAC	That Are OBL, FACW, or FAC:3 (A)
2. Acer rubrum	20	Y	FAC	Total Novel on of Developed
3				Total Number of Dominant Species Across All Strata: 8 (B)
4				(=/
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 37.50 (A/B)
				That Are OBL, FACW, or FAC: 37.50 (A/B)
6				Prevalence Index worksheet:
7	50.0	= Total Cove		Total % Cover of: Multiply by:
50% of total cover: <u>25.0</u>				OBL species $0.00 \times 1 = 0.00$
	20% 01	total cover	10.0	FACW species 0.00 x 2 = 0.00
Sapling/Shrub Stratum (Plot size: 15 radius)	15	V	ΕΛC	FAC species 65.00 x 3 = 195.00
1. Carpinus caroliniana			FACU	FACU species 53.00 x 4 = 212.00
2. Fagus grandifolia		<u>Y</u>	FACU	
3. Quercus alba	8	<u>Y</u>	FACU	
4. Cornus florida	5	N	<u>FACU</u>	Column Totals: <u>126.00</u> (A) <u>447.00</u> (B)
5				Prevalence Index = $B/A = 3.55$
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				
9				2 - Dominance Test is >50%
	38.0	= Total Cove	er	3 - Prevalence Index is ≤3.0 ¹
50% of total cover:19.0				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5 radius)				data in Remarks or on a separate sheet)
1. Rubus argutus	15	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Polystichum acrostichoides	15	Y	FACU	
3. Sanguinaria canadensis	8	Y	UPL	¹ Indicators of hydric soil and wetland hydrology must
,				be present, unless disturbed or problematic.
5				Definitions of Four Vegetation Strata:
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>19.0</u>	20% of	total cover:	7.6	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:30 radius)				height.
1. No rooted vines				
2				
3				
4				Hydranbytia
5				Hydrophytic Vegetation
	_	= Total Cove	er	Present? Yes No✓
50% of total cover: 0.0				
Remarks: (Include photo numbers here or on a separate sh				<u> </u>
Indicators of hydrophytic vegetation abs		rameter	lacking].
, , , ,	•			

Profile Desc	ription: (D	escribe t	o the dept	h needed to document the indicator or conf	irm the al	bsence of indicators.)
Depth		Matrix		Redox Features		
(inches)	Color (ı		%	Color (moist) % Type ¹ Loc ²	Tex	xture Remarks
0-2	10YR	4/3	100		S	SIL
		4/4				SIL
2-18	<u>10YR</u>	4/4	100		_ <u> </u>	DIL
					_	
			etion, RM=	Reduced Matrix, MS=Masked Sand Grains.	² Loca	ation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:					Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)			Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)
	oipedon (A2	2)		Polyvalue Below Surface (S8) (MLRA 14	47, 148)	Coast Prairie Redox (A16)
	stic (A3)			Thin Dark Surface (S9) (MLRA 147, 148		(MLRA 147, 148)
Hydroge	en Sulfide (A	(4)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19)
	d Layers (A			Depleted Matrix (F3)		(MLRA 136, 147)
	ıck (A10) (L	•		Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)
	d Below Da		(A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)
	ark Surface		` ,	Redox Depressions (F8)		_ , , , , ,
	lucky Miner		RR N,	Iron-Manganese Masses (F12) (LRR N,		
	A 147, 148)		·	MLRA 136)		
	Bleyed Matri			Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and
	Redox (S5)	(- /		Piedmont Floodplain Soils (F19) (MLRA	148)	wetland hydrology must be present,
	Matrix (S6))		Red Parent Material (F21) (MLRA 127,		unless disturbed or problematic.
Restrictive					1	
	ches):				Нуа	dric Soil Present? Yes No _✓
Remarks:						
Hydric so	oil indica	ators a	bsent; p	parameter lacking.		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Lost City Solar	city/County: Muhlenberg	County Sampling Date: 2024-08-01			
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky Sampling Point: DP-050			
Investigator(s): I. Bentley, S. Davis		'A			
Landform (hillslope, terrace, etc.): Sideslope	None Slope (%): 3-7				
Subregion (LRR or MLRA): LRR N, MLRA 120A La					
Soil Map Unit Name: Frondorf-Lenberg cor					
Are climatic / hydrologic conditions on the site typical					
Are Vegetation, Soil, or Hydrology		_			
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach site					
Hydrophytic Vegetation Present? Yes	No_ ✓ Is the Sampled Area				
	No ✓ Is the Sampled Area within a Wetland?	Yes No			
	No_ ✓ Within a Wetland?	1esNo			
Remarks:	1				
One or more parameters lacking; a conducted a due diligence review of hydrologic conditions were wetter to	of the Antecedent Precipitation To	ool (APT) and determined that			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; che		Surface Soil Cracks (B6)			
		Sparsely Vegetated Concave Surface (B8)			
	_ Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)			
		Moss Trim Lines (B16)			
	Presence of Reduced Iron (C4)Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2) Crayfish Burrows (C8)			
Drift Deposits (B3)	Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)			
	Other (Explain in Remarks)	Stunted or Stressed Plants (D1)			
Iron Deposits (B5)	_	✓ Geomorphic Position (D2)			
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)			
Water-Stained Leaves (B9)		Microtopographic Relief (D4)			
Aquatic Fauna (B13)		FAC-Neutral Test (D5)			
Field Observations:					
	Depth (inches):				
	Depth (inches):				
Saturation Present? Yes No _✓ (includes capillary fringe)	Depth (inches): Wetland H	lydrology Present? Yes No✓			
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspections), if avail	ilable:			
Remarks:					
No primary and only one secondary	y indicator of wetland hydrology	present; parameter lacking.			

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

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-050
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30 radius)	% Cover	Species?		Number of Dominant Species
1. Acer rubrum	20	<u> </u>	<u>FAC</u>	That Are OBL, FACW, or FAC:4 (A)
2. Acer saccharum	15	<u>Y</u>	FACU	Total Number of Dominant
3. Carya glabra	15	Y	FACU	Species Across All Strata: 9 (B)
4. Liriodendron tulipifera	10	N	FACU	
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 44.44 (A/B)
6				mar Ale ODE, I AOW, OI I AO (A/D)
7.				Prevalence Index worksheet:
	60.0	= Total Cove	er er	Total % Cover of: Multiply by:
50% of total cover: 30.0				OBL species <u>0.00</u> x 1 = <u>0.00</u>
Sapling/Shrub Stratum (Plot size: 15 radius)		_		FACW species <u>0.00</u> x 2 = <u>0.00</u>
1. Fagus grandifolia	15	Υ	FACU	FAC species <u>45.00</u> x 3 = <u>135.00</u>
2. Acer rubrum	10	Y	FAC	FACU species71.00 x 4 =284.00
Nh sana as short in a	40	<u> </u>		UPL species0.00 x 5 =0.00
		· -	1710	Column Totals: 116.00 (A) 419.00 (B)
4				
5				Prevalence Index = B/A = 3.61
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8		·		2 - Dominance Test is >50%
9		· 		3 - Prevalence Index is ≤3.0 ¹
47.5		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 17.5	20% of	total cover:	7.0	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 radius)			E4011	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Parthenocissus quinquefolia		<u>Y</u>	FACU	
2. Chasmanthium latifolium	5	<u>Y</u>	FACU	¹ Indicators of hydric soil and wetland hydrology must
3. Carya ovata	3	<u>N</u>	FACU	be present, unless disturbed or problematic.
4		. <u></u>		Definitions of Four Vegetation Strata:
5				- W
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				Continui Chauth Mandy plants avaluding vines loss
9		. <u> </u>		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 8.0				
Woody Vine Stratum (Plot size: 30 radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. Toxicodendron radicans	5	Υ	FAC	Troight.
2				
3				
4				
5				Hydrophytic Vegetation
<u>. </u>		= Total Cove		Present? Yes No V
50% of total cover: <u>2.5</u>				
Remarks: (Include photo numbers here or on a separate si				
Indicators of hydrophytic vegetation abs		rameter	lacking	j.

Profile Desc	ription: (D	escribe t	o the dept	h needed to document the indicator or conf	irm the al	bsence of indicators.)
Depth		Matrix		Redox Features		
(inches)	Color (r		%	Color (moist) % Type ¹ Loc ²	Tex	xture Remarks
0-4	10YR	4/4	100		S	SIL
						SIL
4-18	<u>10YR</u>	4/6	100		_ <u> </u>	DIL
					_	
	-					
			etion, RM=	Reduced Matrix, MS=Masked Sand Grains.	² Loca	ation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:					Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)			Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)
	oipedon (A2	2)		Polyvalue Below Surface (S8) (MLRA 14	47, 148)	Coast Prairie Redox (A16)
	stic (A3)			Thin Dark Surface (S9) (MLRA 147, 148		(MLRA 147, 148)
	en Sulfide (A	A4)		Loamy Gleyed Matrix (F2)	-	Piedmont Floodplain Soils (F19)
	d Layers (À	,		Depleted Matrix (F3)		(MLRA 136, 147)
	ıck (A10) (L			Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)
	d Below Dai		e (A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)
	ark Surface		` ,	Redox Depressions (F8)		
	lucky Miner		RR N,	Iron-Manganese Masses (F12) (LRR N,		
	A 147, 148)		·	MLRA 136)		
	Bleyed Matri			Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and
	Redox (S5)	(-)		Piedmont Floodplain Soils (F19) (MLRA	148)	wetland hydrology must be present,
	Matrix (S6))		Red Parent Material (F21) (MLRA 127,		unless disturbed or problematic.
Restrictive				<u> </u>	1	
	ches):				Нуа	dric Soil Present? Yes No✓
Remarks:						
Hydric so	oil indica	ators a	bsent; p	parameter lacking.		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Lost City Solar	City/County: Muhlenber	g County Sampling Date: 2024-08-01			
Applicant/Owner: Lost City Renewables, LLC		State: Kentucky Sampling Point: DP-051			
Investigator(s): I. Bentley, S. Davis	Section, Township, Range: N	I/A			
Landform (hillslope, terrace, etc.): Hillslope	Local relief (concave, convex, no	one): Concave Slope (%): 3-7			
Subregion (LRR or MLRA): LRR N, MLRA 120A L					
Soil Map Unit Name: Wellston silt loam, 12					
Are climatic / hydrologic conditions on the site typica		-			
Are Vegetation, Soil, or Hydrology _		_			
Are Vegetation, Soil, or Hydrology _					
		ons, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes	No_ ✓ Is the Sampled Area				
	No V Is the Sampled Area within a Wetland?	Yes No <u> </u>			
	No ✓	Tes NO <u>▼</u>			
Remarks:	-				
One or more parameters lacking; a conducted a due diligence review hydrologic conditions were wetter	of the Antecedent Precipitation 7	Tool (APT) and determined that			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; ch	eck all that apply)	Surface Soil Cracks (B6)			
	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)			
	Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)			
	Oxidized Rhizospheres on Living Roots (C3)Presence of Reduced Iron (C4)				
	Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2) Crayfish Burrows (C8)			
Drift Deposits (B3)	Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)			
	Other (Explain in Remarks)	Stunted or Stressed Plants (D1)			
Iron Deposits (B5)		Geomorphic Position (D2)			
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)			
Water-Stained Leaves (B9)		Microtopographic Relief (D4)			
Aquatic Fauna (B13)		FAC-Neutral Test (D5)			
Field Observations:	(Darth Cooker)				
	✓ Depth (inches): ✓ Depth (inches):				
		Hydrology Present? Yes No_ ✓			
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitorin	g well, aerial photos, previous inspections), if ava	ailable:			
Remarks:	ry indicator of watland budralagu	property perometer leaking			
No primary and only one seconda	ry indicator of wetland hydrology	present, parameter lacking.			

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

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: DP-051
	Absolute			Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30 radius</u>) 1. <u>No rooted trees</u>		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant
3		. <u> </u>		Species Across All Strata: 6 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 16.67 (A/B)
6				That Are OBE, I AGW, OF I AG.
7				Prevalence Index worksheet:
	0	= Total Cove		Total % Cover of: Multiply by:
50% of total cover:0.0				OBL species x 1 = 0.00
Sapling/Shrub Stratum (Plot size: 15 radius)				FACW species5.00 x 2 =10.00
	15	Υ	FAC	FAC species15.00 x 3 =45.00
a Illmus slota	15	<u> </u>	FACU	FACU species 38.00 x 4 = 152.00
Flancisco comballata	40	<u> </u>	UPL	UPL species 23.00 x 5 = 115.00
3. Eleagnus umbeliata			UPL	Column Totals: 81.00 (A) 322.00 (B)
4		·		Column Totals. ST.00 (A) SZZ.00 (B)
5				Prevalence Index = B/A = 3.98
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8		. <u></u>		2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
	40.0	= Total Cove	er	4 - Morphological Adaptations¹ (Provide supporting
50% of total cover: <u>20.0</u>				
Herb Stratum (Plot size:5 radius)				data in Remarks or on a separate sheet)
1. Glycene max	10	Y	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ambrosia artemisiifolia	10	Υ	FACU	
3. Chamaecrista nictitans	8	Y	FACU	¹ Indicators of hydric soil and wetland hydrology must
4. Ludwigia alternifolia	5	N	FACW	be present, unless disturbed or problematic.
5. Oxalis dillenii	5	N	FACU	Definitions of Four Vegetation Strata:
6. Plantago lanceolata	3	N	UPL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
-		· 	OFL	more in diameter at breast height (DBH), regardless of
7				height.
8		·		Sapling/Shrub – Woody plants, excluding vines, less
9		·		than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	41.0	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>20.5</u>	20% of	total cover:	8.2	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 radius)				height.
1. No rooted vines		. <u> </u>		
2				
3.				
4				
				Hydrophytic
5	_			Vegetation Present? Yes No ✓
50% of total cover: <u>0.0</u>		= Total Cove		
		total cover.	0.0	
Remarks: (Include photo numbers here or on a separate sl Indicators of hydrophytic vegetation abs		rameter	lacking	1
indicators of rigulophytic vegetation abs	ent, pa	rameter	iackiiiç	y.

Profile Desc	ription: (D	escribe t	o the dept	h needed to document the indicator or confi	rm the ab	sence of indicators.)
Depth		Matrix		Redox Features	_	
(inches)	Color (ı		%	Color (moist) % Type ¹ Loc ²	Text	ure Remarks
0-3	10YR	4/4	100		SI	L
					SI	
3-18	<u>10YR</u>	5/6	100		<u> </u>	<u> </u>
					_	
			etion, RM=	Reduced Matrix, MS=Masked Sand Grains.	² Locat	ion: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:					Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)			Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)
	oipedon (A2	2)		Polyvalue Below Surface (S8) (MLRA 14	7, 148)	Coast Prairie Redox (A16)
	stic (A3)	•		Thin Dark Surface (S9) (MLRA 147, 148)		(MLRA 147, 148)
	en Sulfide (<i>A</i>	\4)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19)
	d Layers (A	,		Depleted Matrix (F3)		(MLRA 136, 147)
	ıck (A10) (L			Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)
	d Below Da		(A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)
	ark Surface		` ,	Redox Depressions (F8)		
	lucky Miner		RR N,	Iron-Manganese Masses (F12) (LRR N,		
	A 147, 148)		•	MLRA 136)		
	Sleyed Matri			Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and
	Redox (S5)	(- /		Piedmont Floodplain Soils (F19) (MLRA	148)	wetland hydrology must be present,
	Matrix (S6))		Red Parent Material (F21) (MLRA 127, 1		unless disturbed or problematic.
Restrictive					1	
	ches):				Hydr	ic Soil Present? Yes No✓
Remarks:						
Hydric so	oil indica	ators a	bsent; p	parameter lacking.		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-08-01
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-052
Investigator(s): I. Bentley, S. Davis	Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Hillslope Lo	cal relief (concave, convex, none): Convex Slope (%): 3-7
Subregion (LRR or MLRA): LRR N, MLRA 120A Lat: 37.084942	· · · · · · · · · · · · · · · · · · ·
Soil Map Unit Name: Frondorf-Lenberg complex, 12 to	
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? 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 pro	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓	Is the Sampled Area within a Wetland? Yes No✓
	onsidered a definitional wetland. The lead delineator edent Precipitation Tool (APT) and determined that at the time of survey.
HYDROLOGY	
Water Marks (B1) Presence of Re	de Odor (C1) Drainage Patterns (B10) spheres on Living Roots (C3) Moss Trim Lines (B16) educed Iron (C4) Dry-Season Water Table (C2) eduction in Tilled Soils (C6) Crayfish Burrows (C8) face (C7) Saturation Visible on Aerial Imagery (C9)
Surface Water Present? Yes No ✓ Depth (inches) Water Table Present? Yes No ✓ Depth (inches) Saturation Present? Yes No ✓ Depth (inches)):
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	
Remarks: Indicators of wetland hydrology absent; param	eter lacking.

VE

/EGETATION (Four Strata) – Use scientific		-		1
Tree Stratum (Plot size:30 radius)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Liquidambar styraciflua	35	Υ	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
2. Liriodendron tulipifera	20	Y	FACU	
3. Acer rubrum	15	N	FAC	Total Number of Dominant Species Across All Strata: 8 (B)
4. Fagus grandifolia	10	N	FACU	Opecies Acioss All Strata.
5. Quercus alba	10	N	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
	_			That Are OBL, FACW, or FAC:
o 7				Prevalence Index worksheet:
	90.0	= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover: 45				OBL species x 1 = 0.00
Sapling/Shrub Stratum (Plot size: 15 radius)				FACW species <u>20.00</u> x 2 = <u>40.00</u>
1. Carya ovata	15	Υ	FACU	FAC species $_{-}75.00$ x 3 = $_{-}225.00$
2. Fagus grandifolia	4.0	Y	FACU	FACU species 90.00 x 4 = 360.00
3. Acer rubrum		Υ	FAC	UPL species <u>0.00</u> x 5 = <u>0.00</u>
4				Column Totals: <u>185.00</u> (A) <u>625.00</u> (B)
5				
6				Prevalence Index = B/A = 3.38
7				Hydrophytic Vegetation Indicators:
8.				1 - Rapid Test for Hydrophytic Vegetation
9.	-		-	2 - Dominance Test is >50%
<u> </u>	35.0	= Total Cov	er	3 - Prevalence Index is ≤3.0 ¹
50% of total cover:17				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5 radius)				data in Remarks or on a separate sheet)
1. Fraxinus pennsylvanica	20	Υ	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Polystichum acrostichoides	15	Y	FACU	
3. Microstegium vimineum	10	N	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Parthenocissus quinquefolia	10	N	FACU	Definitions of Four Vegetation Strata:
5				Definitions of Four Vegetation Strata.
6.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7.				more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				
	55.0	= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 27				
Woody Vine Stratum (Plot size: 30 radius)				Woody vine – All woody vines greater than 3.28 ft in height.
1. Toxicodendron radicans	5	Υ	FAC	neight.
2				
3				
4				
5				Hydrophytic Vegetation
<u>. </u>		= Total Cov		Present? Yes No
50% of total cover: 2				

Indicators of hydrophytic vegetation absent; parameter lacking.

Profile Desc	ription: (D	escribe 1	to the dep	th needed to docur	nent the i	ndicator o	or confirm	n the abse	ence of indicators.)	
Depth		Matrix			x Feature:	4		_		
(inches)			Color (moist)	%	Type ¹	Loc ²	Textur		urks	
0-3	<u>10YR</u>	4/4	100					SIL		
3-18	10YR	4/6	100					SIL	<u> </u>	
	-							-		
	-								<u> </u>	
			letion, RM=	=Reduced Matrix, MS	S=Masked	Sand Gra	ins.		n: PL=Pore Lining, M=Ma	
Hydric Soil I	ndicators:							li	ndicators for Problemati	c Hydric Soils ³ :
Histosol				Dark Surface					2 cm Muck (A10) (MLI	
	pipedon (A2	2)		Polyvalue Be				, 148) _	_ Coast Prairie Redox (A	A16)
Black Hi				Thin Dark Su			47, 148)		(MLRA 147, 148)	(=)
	n Sulfide (A			Loamy Gleye		F2)		_	_ Piedmont Floodplain S	Soils (F19)
	d Layers (At ick (A10) (L			Depleted Ma Redox Dark		-c)			(MLRA 136, 147) Very Shallow Dark Su	rfood (TE12)
	d Below Da		- (Δ11)	Depleted Dai	•			-	Very Shallow Dark SuOther (Explain in Rem	
	ark Surface		,,,,,	Redox Depre				_	Other (Explain in 1tem	arroj
	lucky Miner		.RR N,	Iron-Mangan			RR N,			
	147, 148)		·	MLRA 13		, , ,	,			
Sandy G	leyed Matri	ix (S4)		Umbric Surfa	Umbric Surface (F13) (MLRA 136, 122) 3Indicators of hydrophytic vegetation					
Sandy R	edox (S5)			Piedmont Flo					wetland hydrology must	t be present,
	Matrix (S6)			Red Parent N	Material (F	21) (MLR	4 127, 147	7)	unless disturbed or prol	olematic.
Restrictive I	_ayer (if ob	served):								
Type:										
Depth (inc	ches):							Hydric	Soil Present? Yes	No <u>√</u>
Remarks:								<u> </u>		
Hydric sc	oil indica	ators a	bsent;	parameter lac	king.					

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-08-01
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-053
	Section, Township, Range: N/A
	ocal relief (concave, convex, none): None Slope (%): 0-2
, , ,	8 Long: <u>-86.970072</u> Datum: NAD83
Soil Map Unit Name: Frondorf-Lenberg complex, 12 to	
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes No ✓ (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantl	y disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally p	
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes No _ ✓ Wetland Hydrology Present?	Is the Sampled Area within a Wetland? Yes No✓
	considered a definitional wetland. The lead delineator cedent Precipitation Tool (APT) and determined that I at the time of survey.
HYDROLOGY	
Water Marks (B1) Presence of F	Plants (B14) Sparsely Vegetated Concave Surface (B8) ide Odor (C1) Drainage Patterns (B10) ospheres on Living Roots (C3) Moss Trim Lines (B16) educed Iron (C4) Dry-Season Water Table (C2) eduction in Tilled Soils (C6) Crayfish Burrows (C8) fface (C7) Saturation Visible on Aerial Imagery (C9)
Surface Water Present? Yes No ✓ Depth (inche	s):
Water Table Present? Yes No _✓ Depth (inche	
Saturation Present? Yes No ✓ _ Depth (inche (includes capillary fringe)	S): Wetland Hydrology Present? Yes No_ ✓
Describe Recorded Data (stream gauge, monitoring well, aerial pho	os, previous inspections), if available:
Remarks: Indicators of wetland hydrology absent; paran	neter lacking.

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20 radius	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30 radius)		Species?		Number of Dominant Species
Pinus echinata	35	<u>Y</u>	UPL	That Are OBL, FACW, or FAC: 2 (A)
Juniperus virginiana	20	<u>Y</u>	FACU	Total Number of Dominant
. Quercus stellata	15	<u> </u>	UPL	Species Across All Strata: 11 (B)
•				Percent of Dominant Species
i				That Are OBL, FACW, or FAC: 18.18 (A/B
·		-		Prevalence Index worksheet:
		-		Total % Cover of: Multiply by:
		= Total Cov		
50% of total cover: <u>35.0</u>	20% of	total cover:	14.0	'
apling/Shrub Stratum (Plot size: 15 radius)			=	0.00
. Fraxinus americana		<u>Y</u>	FACU	
. Vaccinium arboreum	10	<u>Y</u>	FACU	FACU species 70.00 x 4 = 280.00
Quercus stellata	5	N	UPL	UPL species 95.00 x 5 = 475.00
				Column Totals: <u>138.00</u> (A) <u>779.00</u> (B)
				Prevalence Index = B/A = 4.50
				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
·	_			2 - Dominance Test is >50%
		-		3 - Prevalence Index is ≤3.0 ¹
	35.0	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supportin
50% of total cover: 17.5 Herb Stratum (Plot size: 5 radius)	20% of	total cover:	7.0	data in Remarks or on a separate sheet)
. Fraxinus americana	10	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
. Quercus stellata	5	Y	UPL	
Smilax rotundifolia		<u>'</u>	FAC	¹ Indicators of hydric soil and wetland hydrology must
. Fagus grandifolia	5	<u>'</u>	FACU	be present, unless disturbed or problematic.
	-		17100	Definitions of Four Vegetation Strata:
•				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) o
·				more in diameter at breast height (DBH), regardless o
				height.
•				Sapling/Shrub – Woody plants, excluding vines, less
		-		than 3 in. DBH and greater than or equal to 3.28 ft (1
0		-		m) tall.
1				Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>12.5</u>	20% of	total cover:	5.0	Woody vine – All woody vines greater than 3.28 ft in
Voody Vine Stratum (Plot size: 30 radius)	_		E4011	height.
Lonicera japonica	5	<u>Y</u>	FACU	
_Toxicodendron radicans	3	<u>Y</u>	FAC	
				Hydrophytic
				Vegetation
		= Total Cov	er	Present? Yes No
50% of total cover: 4.0	20% of	total cover:	1.6	
Remarks: (Include photo numbers here or on a separate s	l 1 \			1

US Army Corps of Engineers

Profile Desc	ription: (D	escribe t	o the dept	h needed to document the indicator or confi	rm the ab	sence of indicators.)				
Depth		Matrix		Redox Features	_					
(inches)	Color (ı		%	Color (moist) % Type ¹ Loc ²	Tex	ture Remarks				
0-3	10YR	4/6	100		S	61				
					S					
3-18	<u>10YR</u>	6/6	100			<u> </u>				
					_					
					_					
			etion, RM=	Reduced Matrix, MS=Masked Sand Grains.	² Locat	tion: PL=Pore Lining, M=Matrix.				
Hydric Soil	Indicators:					Indicators for Problematic Hydric Soils ³ :				
Histosol	(A1)			Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)				
	oipedon (A2	2)		Polyvalue Below Surface (S8) (MLRA 14	7, 148)	Coast Prairie Redox (A16)				
	stic (A3)			Thin Dark Surface (S9) (MLRA 147, 148)		(MLRA 147, 148)				
	en Sulfide (A	A4)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19)				
	d Layers (A	,		Depleted Matrix (F3)		(MLRA 136, 147)				
	ıck (A10) (L			Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)				
	d Below Da		(A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)				
	ark Surface		, ,	Redox Depressions (F8)						
	lucky Miner		RR N,	Iron-Manganese Masses (F12) (LRR N,						
	A 147, 148)		·	MLRA 136)						
	Sleyed Matri			Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and				
	Redox (S5)	(- /		Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present,						
	Matrix (S6))		Red Parent Material (F21) (MLRA 127, 1		unless disturbed or problematic.				
Restrictive				<u> </u>	1					
	ches):				Hydr	ic Soil Present? Yes No✓				
Remarks:										
Hydric so	oil indica	ators a	bsent; p	parameter lacking.						

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Lost City Solar	City/County: Muhlenberg County Sampling Date: 2024-08-0					
Applicant/Owner: Lost City Renewables, LLC	State: Kentucky Sampling Point: DP-054					
Investigator(s): I. Bentley, S. Davis	Section, Township, Range: N//					
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none	e): None	Slope (%): 0-2			
Subregion (LRR or MLRA): LRR N, MLRA 120A La						
Soil Map Unit Name: Wellston silt loam, 12						
Are climatic / hydrologic conditions on the site typical						
Are Vegetation, Soil, or Hydrology			_			
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site						
Hydrophytic Vegetation Present? Yes	No ✓ In the Sampled Area					
	Is the Sampled Area within a Wetland?	Vos	No <u> </u>			
	No✓	162				
Remarks:	-					
One or more parameters lacking; a conducted a due diligence review of hydrologic conditions were wetter to	of the Antecedent Precipitation To	ool (APT) a				
HYDROLOGY						
Wetland Hydrology Indicators:	_		eators (minimum of two required)			
Primary Indicators (minimum of one is required; che		Surface Soi				
			egetated Concave Surface (B8)			
	_ Hydrogen Sulfide Odor (C1)		atterns (B10)			
		Moss Trim I				
	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Crayfish Bu	Water Table (C2)			
Drift Deposits (B3)	Thin Muck Surface (C7)		/isible on Aerial Imagery (C9)			
	Other (Explain in Remarks)		Stressed Plants (D1)			
Iron Deposits (B5)		✓ Geomorphic				
Inundation Visible on Aerial Imagery (B7)	_	Shallow Aqu	uitard (D3)			
Water-Stained Leaves (B9)	_		raphic Relief (D4)			
Aquatic Fauna (B13)		FAC-Neutra	al Test (D5)			
Field Observations:						
	Depth (inches):					
	Depth (inches):					
Saturation Present? Yes No _✓ (includes capillary fringe)	Depth (inches): Wetland Hy	drology Prese	nt? Yes No_ ✓			
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspections), if availa	able:				
Remarks:						
No primary and only one secondary	y indicator of wetland hydrology p	resent; pa	rameter lacking.			

	Absolute	Dominant		Dominance Test worksheet:
Free Stratum (Plot size: 30 radius)		Species?		Number of Dominant Species
. Acer rubrum	30	Y	FAC	That Are OBL, FACW, or FAC:4 (A)
. Carya glabra	30	<u> </u>	FACU	Total Number of Dominant
. Fagus grandifolia	10	N	<u>FACU</u>	Species Across All Strata: 8 (B)
ł				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 50.00 (A/B
5				,
7				Prevalence Index worksheet:
	70.0	= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover: <u>35.0</u>	20% of	total cover:	14.0	OBL species $0.00 \times 1 = 0.00$
Sapling/Shrub Stratum (Plot size: 15 radius)				FACW species $0.00 \times 2 = 0.00$
. Ulmus rubra	15	Y	FAC	FAC species 68.00 x 3 = 204.00
2. Fagus grandifolia	10	Y	FACU	FACU species <u>85.00</u> x 4 = <u>340.00</u>
3. Acer rubrum	10	Υ	FAC	UPL species $0.00 \times 5 = 0.00$
1.				Column Totals: <u>153.00</u> (A) <u>544.00</u> (B)
5.				5
5				Prevalence Index = B/A = 3.56
7				Hydrophytic Vegetation Indicators:
3				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
9		= Total Cov		3 - Prevalence Index is ≤3.0 ¹
50% of total cover:17.5				4 - Morphological Adaptations ¹ (Provide supportin
Herb Stratum (Plot size: 5 radius)	2070 01	total cover.	7.0	data in Remarks or on a separate sheet)
Symphoricarpos orbiculatus	25	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Fraxinus americana	10		FACU	
3. Smilax rotundifolia	10		FAC	¹ Indicators of hydric soil and wetland hydrology must
			170	be present, unless disturbed or problematic.
ł		· <u></u>		Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) o
ò		· 		more in diameter at breast height (DBH), regardless of
7		· <u></u>		height.
3		· ——		Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
l1				Herb - All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>22.5</u>	20% of	total cover:	9.0	Woody vine – All woody vines greater than 3.28 ft in
Noody Vine Stratum (Plot size:30 radius)				height.
_Toxicodendron radicans	3	N	<u>FAC</u>	
2				
3	-			
1				Hydrophytic
5		· ·		Hydrophytic Vegetation
		= Total Cov	er	Present? Yes No
50% of total cover:1.5				
50% of total cover: <u>1.5</u> Remarks: (Include photo numbers here or on a separate s ndicators of hydrophytic vegetation abs	heet.)	rameter	lacking].

Profile Desc	ription: (D	escribe t	o the dept	h needed to document the indicator or confi	rm the ab	sence of indicators.)					
Depth		Matrix		Redox Features	_						
(inches)	Color (ı		%	Color (moist) % Type ¹ Loc ²	Text	ture Remarks					
0-3	10YR	4/3	100		SI	IL					
		4/4			S						
3-18	<u>10YR</u>	4/4	100			<u> </u>					
					_						
			etion, RM=	Reduced Matrix, MS=Masked Sand Grains.	² Locat	tion: PL=Pore Lining, M=Matrix.					
Hydric Soil	Indicators:					Indicators for Problematic Hydric Soils ³ :					
Histosol	(A1)			Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)					
	oipedon (A2	2)		Polyvalue Below Surface (S8) (MLRA 14	17, 148)	Coast Prairie Redox (A16)					
	stic (A3)			Thin Dark Surface (S9) (MLRA 147, 148		(MLRA 147, 148)					
	en Sulfide (<i>A</i>	A4)		Loamy Gleyed Matrix (F2)	-	Piedmont Floodplain Soils (F19)					
	d Layers (A	,		Depleted Matrix (F3)		(MLRA 136, 147)					
	ıck (A10) (L			Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)					
	d Below Da		e (A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)					
	ark Surface		` ,	Redox Depressions (F8)							
	lucky Miner		RR N,	Iron-Manganese Masses (F12) (LRR N,							
	A 147, 148)		·	MLRA 136)							
	Bleyed Matri			Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and					
	Redox (S5)	(- /		Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present,							
	Matrix (S6))		Red Parent Material (F21) (MLRA 127, 1		unless disturbed or problematic.					
Restrictive					1						
	ches):			<u> </u>	Hydr	ic Soil Present? Yes No					
Remarks:											
Hydric so	oil indica	ators a	bsent; p	parameter lacking.							

Appendix E Resumes



ISAAC BENTLEY AQUATIC/WETLAND SCIENTIST II

Regulatory Expertise

- CWA (Section 404 & 401)
- United States Army Corps of Engineering (USACE) Wetland Delineation Manual & Regional Supplements
- ESA (§7 & §10)
- Migratory Bird Treaty Act

Industry Clientele

- KY Department of Fish and Wildlife Resources
- TN Department of Environment and Conservation

Education

- M.S. Biology, 2020, Eastern Kentucky University, Richmond, Kentucky (did not defend)
- **B.S. Wildlife Management**, 2017, Eastern Kentucky University, Richmond, Kentucky

Taxa Expertise

- Inland Stream Fishes (Listed)
- Freshwater Invertebrates (Listed)
- Wetland and Aquatic plants
- Eastern U.S. Woody Plants and Vegetation
- Passerines and Raptors
- Reptiles/Amphibians
- Mammals

Survey Expertise

- Wetland and Stream Delineation
- Habitat Assessments, Aquatic and Terrestrial
- Presence/Absence
- Fish Shocking
- Aquatic Invertebrate
- Vegetation, Wetland and Upland
- Avian, Passerine and Raptor

Certifications/Trainings

- Wetland Delineation Certificate, Wetland Training Institute, 2021
- Swamp School Training, 2022
- Tennessee Department of Environment & Conservation Hydrologic Determination Training Course, 2022
- Certified Wildlife Biologist (TWS)
- Type II Wildland Firefighter
- Chronic Wasting Disease Workshop, Retropharyngeal Lymph Node Extraction



Qualifications and Background

Mr. Bentley has 8 years of experience studying, working, and volunteering alongside universities, agencies, and NGOs with federal and state listed flora and fauna species. He has conducted master's level research on the ability of movement in stream fishes as part of a restoration technique employed by Kentucky Department of Fish and Wildlife. He has worked extensively with wetland delineation, fishes, vegetation surveys, stream surveys/capture methods, and identification skills. Mr. Bentley has designed, developed, implemented an inventory, research, management, and monitoring for his fish study. He has filled supervisory roles during his master's research, employing assistance and coordinating dates for employing field-method based research.

Affiliations

- The Wildlife Society
- National Wild Turkey Federation
- Rocky Mountain Elk Foundation
- Southeastern Fishes Council
- Ecological Society of America



Selected Project Experience

Wetland & Stream Delineation for Mammoth Cave Campground Denison Ferry Road, KY 2023

Conducted a wetland and stream delineation for a site of approximately 200 acres near Mammoth Cave, Kentucky.

Multiple Service Aquatic Surveys for Lochner Bridge Replacements, KY 2022

Conducted preliminary multiple-service surveys for 23 bridges to be replaced in areas that span the entirety of Kentucky. Once preliminary surveys were conducted, aquatic surveys for listed species (Big Sandy Crayfish, Cumberland Darter, and Kentucky Arrow Darter) were conducted.

Wetland & Stream Delineation for DNV Mastodon Solar Project, MI 2022

Conducted a wetland and stream delineation for a site of approximately 3,000 acres near Blissfield, Michigan.

Wetland & Stream Delineation for CCR Fiddler Solar Project, TN 2022

Conducted a wetland and stream delineation for a site of approximately 850 acres in DeKalb County, Tennessee.

Wetland & Stream Delineation for EDP Solar Project, KY 2022

Conducted a wetland and stream delineation for a site of approximately 2,500 acres in Breckinridge County, Kentucky.

Wetland & Stream Delineation for JDA Geil Lane Project, KY 2022

Conducted a wetland and stream delineation for a site of approximately 35 acres near Louisville, Kentucky.

Wetland & Stream Delineation for CCR Tupelo MS Solar Project, MS 2022

Conducted a wetland and stream delineation for a site of approximately 3,000 acres in Tupelo, Mississippi.

Wetland & Stream Delineation for TVA Transmission Lines (Barkley-Oakwood) Project, KY/TN 2022

Conducted a corridor wetland and stream delineation for a site of approximately 60 linear miles in Western Kentucky and Tennessee.

Wetland & Stream Delineation for Village at the Palisades, KY 2022

Conducted a wetland and stream delineation for a site of approximately 8 acres in Mercer County, Kentucky.

Wetland & Stream Delineation for WKRRA for Wickliffe Solar Project, KY 2022

Conducted a wetland and stream delineation for a site of approximately 15 acres in Ballard County, Kentucky.

Wetland & Stream Delineation for Horseshoe Bend Solar Project, KY 2022

Conducted a wetland and stream delineation for a site of approximately 560 acres in Green County, Kentucky.

Wetland & Stream Delineation for Engie, Mt. Olive Creek Solar Project KY 2022

Conducted a wetland and stream delineation for a site of approximately 512 acres in Russel and Adair Counties, Kentucky.

Wetland & Stream Delineation for TVA - Incompatible Vegetation Project in Transmission Right of Ways, TN/KY/AL/GA 2022



Conducted a corridor wetland and stream delineation for transmission lines approximately 200 linear miles long primarily in Tennessee, but also in Kentucky, Alabama, and Georgia.

Wetland & Stream Delineation for Hardin County Solar Project, KY 2021

Corrected a wetland and stream delineation alongside the USACE for a site of approximately 1100 acres in Hardin County, Kentucky.

Wetland & Stream Delineation for Pine Gate Renewables Belsena Solar Project, PA 2021

Conducted a wetland and stream delineation for a site of approximately 900 acres in Clearfield County, Pennsylvania.

Movement of Stream Fishes Over Potential Migratory Barriers, Kentucky Department of Fish and Wildlife Resources, Menifee Co., Kentucky - 2017-2020

Mr. Bentley designed, developed, managed, and conducted movement surveys of stream fishes in East Fork Indian Creek in the Red River Gorge of Kentucky. The study was formed to understand passage of all stream fish, including two species of Kentucky state concern (*Percina maculata* and *Etheostoma baileyi*), over potential anthropogenic migratory barriers. Logistics of the study included orchestrating, overseeing, and installing/removing field equipment, utilizing two types of marking techniques (PIT and VIE), and monitoring fish movement over the duration of two years. Management recommendations were provided to Federal and State organizations based on data analyses and results.

Presentations

Movement of stream fishes across potential migration barriers in East Fork Indian Creek, Menifee Co. Kentucky, 2019. The Kentucky Academy of Sciences and the Southeastern Fishes Council Annual Meeting



SHEA DAKOTA DAVIS AQUATIC BIOLOGIST

Survey Expertise

- Freshwater Mussel Surveys and Relocation
- Mussel Habitat Assessment
- Electrofishing/Seining Fish Surveys and relocation
- Rapid Bioassessment Protocols

Relevant Coursework

- Forest Ecology
- Stream Restoration
- Fluvial Geomorphology
- Hydrogeology
- GIS
- Entomology
- Forest Entomology

Certifications/Training

- West Virginia Mussel Course
- Swamp School
- CPR
- Wilderness First Aid

Professional Experience

Copperhead Environmental Consulting, Inc., Aquatic Biologist, May 2022 - Present

Education

University of Kentucky, Bachelor of Science in Natural Resources and Environmental Science with concentrations in Water Resources, Field/Lab, and Wildlife, 2021



Qualifications and Background

Ms. Davis attended the University of Kentucky where she graduated summa cum laude with a Bachelor of Science in Natural Resources and Environmental Science.

During her undergraduate career, her emphasis areas were water resources, wildlife, and field/laboratory analysis. Presently she is an aspiring aquatic biologist with a specific interest in freshwater mussels as well gaining experience in delineating wetlands.

Herbert Hoover Mussel Monitoring, WV 2022-2023

Provided turbidity monitoring for streams impacted by the construction of Herbert Hoover High School in Elkview, WV.

Bridge Water Quality Monitoring TDOT, TN 2022-current

Conducted monthly monitoring of water chemistry parameters of two locations on Clear Creek, wrote and submitted monthly report of results and calibrates equipment.

Tree Planting Fort Knox, KY 2023

Hand planted bare root seedlings with the Copperhead forestry team on a total of 45 acres within Hunt Area 80 on Fort Knox property.

Tree Planting DBNF, KY 2023

Hand planted bare root Red Oak seedlings with the Copperhead forestry team in the Daniel Boone National Forest.

Wetland & Stream Delineation for KY-536 Expansion Project, KY 2022

Conducted a wetland and stream delineation for an approximately 150-acre site in Kenton County, Kentucky

Water Quality Survey, Yellow Creek, 2022.

Backpack electroshocking two reaches to investigate stream health of Yellow Creek using the Kentucky Index of Biotic Integrity (KIBI). Macroinvertebrate sampling for stream health assessments also took place using kick-netting as well as swoop-netting to collect samples.

Mussel Survey TDOT Gary Dyer, TN 2022

Conducted a freshwater mussel survey on Black Wolf Creek and its tributaries within the project boundary in Scott Co., TN.

Bridge Surveys KYTC, KY 2022

Conducted a fish shocking survey for a KYTC bridge replacement project in Tye Fork, Knox County, Kentucky. Including water quality surveys, mussel survey, habitat assessment stream assessment, and fish surveys.

Fish Relocation for the Kentucky Bridge Program Project, KY 2022

Collected and identified fish within the impacted stream area and relocated the threatened Kentucky Arrow Darter (*Etheostoma spilotum*).

National Parks Service Mussel Surveys, WV 2022

Conducted mussel surveys for an inventory program on the New River, Gauley River, and Bluestone Rivers for the National Park Service. Supervised by biologists Price Sewell and Taylor Fagin.

NERI Cliff-line Survey, WV 2022

Conducted acoustic surveys for bats to determine species and activity level near climbing routes in the New River Gorge, contracted by the National Park Service. Installed and removed poles with Anabat technology—acoustic detectors fitted with omnidirectional microphones.



Hinkston Creek Water Quality Assessment, KY 2022

Evaluated water quality in Hinkston Creek (Bourbon County, KY) through bivalve (*Corbicula fluminea*) in situ growth studies in mussel silos, electrofishing and subsequent IBI, and by use of water quality meters.

Little Sextons Creek Habitat Assessment, KY 2023

Marked and recorded data on individual trees to be retained that served as potential habitat for bat species along Little Sextons Creek in service of the ILF-KDFWR stream restoration project in Jackson and Clay Counties, KY.

Slabcamp Branch Habitat Assessment, KY 2023

Marked and recorded data on individual trees to be retained that served as potential habitat for bat species along Slabcamp Branch in service of the ILF-KDFWR stream restoration project in Rowan County, KY.

Post-Harvest Timber Stand Improvement DBNF, KY 2023

Employed hack and squirt methodologies for timber stand improvement for the Ruffed Grouse Society on approximately 73-acres within the Daniel Boone National Forest in Pulaski County, KY.

Imperiled Forest Dwelling Bat Monitoring, Fort Knox, KY 2023

Monitored and recorded emergence data for bats dwelling in BrandenBark® structures via conducting exit counts. Monitored bat activity in timber cut areas via installing Anabat technology—acoustic detectors fitted with omnidirectional microphones, and subsequent removal. Conducted mist-net surveys for collecting standard biometric data on individual bats and subsequent radio tagging of target species. Tracked radio-tagged bats to roosts for seven days.

Presence/Absence Mist-Net Survey, TN 2023

Conducted mist-net surveys for Tennessee Department of Transportation to determine presence/probable absence of Indiana bats. Tricolored bats, and Northern long-eared bats in Hawkins County, TN.



MEG HEROD WETLAND SCIENTIST

Regulatory Expertise

- Clean Water Act
- Executive Order 13751
- NEPA

Industry Clientele

- US Forest Service
- Tennessee Valley Authority
- National Park Service
- US Fish and Wildlife Service
- USACE

Environmental Services

- Ecosystem Restoration
- Wetland & Stream Delineation
- Invasive species management & control

Survey Expertise

- Vegetation Surveys
- Stream Surface Water Quality
- Invasive Species Monitoring
- Plant Relocation Assessment
- Macroinvertebrate Sampling

Education

Wetland Delineation, 2022, Swamp School LLC

Tennessee Hydrologic Determination Course,2022, TDEC

M.S. Aquatic Resources, 2022, Texas State University

Graduate Advisor: Dr. Jason Martina

B.S. Ecology for Environmental Science, 2018, University of North Texas

Experience

Copperhead Environmental Consulting, Inc., Wetland Scientist, January 2022-present

Texas State University, Graduate Research Assistant, Instructional Assistant, August 2019 – January 2022

USACE, Aquatic Ecosystem Research Student Leader, May 2018 – July 2019, Terrestrial Ecosystem Management Assistant, December 2017 – May 2018



Qualifications and Background

Mrs. Herod is a broadly experienced ecologist with four years of experience working for various state and federal agencies and universities. She has conducted master's level research on the ecological correlates of the spread and invasion success of Arundo donax in central Texas. She has contributed her skills to a wide range of environmental projects, including the global Nutrient Network experiment, invasive species management and monitoring with the USACE and USGS, habitat restoration with the USACE and Texas Water Development Board, and macroinvertebrate surveys with the University of North Texas. She has worked extensively in wetland, limnetic, and stream environments conducting surveys of these ecosystems' biotic and abiotic characteristics. Mrs. Herod has instructed over 250 students in laboratory coursework related to botany, general ecology, and wetland plant ecology and management. She has experience in field data collection techniques, greenhouse experiment design, GIS mapping, GPS data collection, remote sensing of vegetation and data analysis software.

Presentations

"Wetlands and Wetland Delineation". The Kentucky Wildlife Society Annual Conference, February 2022

"Endangered and Invasive Species". Boy Scouts of America - Kyle Chapter, June 2021

"Comparative Anatomy of the Submersed and Emergent Stems and Leaves of *Shinnersia rivularis* (Asteraceae: Eupatorieae)". Texas Academy of Science Annual Conference, Stephen F. Austin State University, February 2019

Publications

Herod, M., & Martina, J. (2023). Influence of light, nutrients, and soil moisture on the growth and resource allocation of Arundo donax. Weed Research.

Project Experience

DBNF Vegetation Management Risk Analysis, 2023

Assisted in the data aggregation, outlining, writing, and proofreading of an herbicide risk assessment per USFS guidelines.

NPS FRST Trails EA, 2023

Assisted in the outlining, writing, and proofreading of an environmental assessment as part of the NEPA process for the National Park Service.

Natchez Trace Programmatic Road EA, 2023

Assisted in the outlining, writing, and proofreading of an environmental assessment as part of the NEPA process for the National Park Service.

Wetland & Stream Delineation for Vermillion Renewables Project, IL 2023

Conducted a wetland and stream delineation and led field teams for a wind turbine site in Champaign County, Illinois.

USFS Gap EA, 2023

Assisted in the outlining, writing, and proofreading of an environmental assessment as part of the NEPA process for the US Forest Service.

INHF Brandenbark Installation, IA 2023

Assisted in the building and instillation of artificial bat roosting structures in Iowa.

UPL Algaecide Trials, KY 2023

Developed and executed testing protocol for monitoring the efficacy of novel algaecides. Maintained algal cultures.

UPL Algaecide Trials, KY 2023

Developed and executed testing protocol for monitoring the efficacy of novel algaecides. Maintained algal cultures.

Fort Knox Tree Inventory, KY 2023

Assisted in the data collection for tree inventory in Fort Knox, KY. Estimated saleable timber and provided recommendations for future timber management strategies.

Fort Knox Timber Stand Improvement, KY 2023

Conducted timber stand improvement managing invasive species and nuisance species. Safely handled herbicide.

Fort Knox Timber Stand Improvement, KY 2023

Conducted timber stand improvement managing invasive species and nuisance species. Safely handled herbicide.

TVA Brandenbark Monitoring, TN, AL, KY 2023

Monitored artificial bat roosting structures for colony presence and conducted mist net surveys on structures housing bat colonies.

Stantec Wetland Delineation Support, VA 2023

Conducted a wetland and stream delineation as support for Stantec on a site in Mecklenburg County, Virginia

ODNR AMLER Buckeye Trail Survey, OH 2023

Conducted vegetation, habitat, and RTE species surveys on proposed trail expansion in Athens and Perry County, Ohio.

Herbert Hoover Water Quality Monitoring Project, WV 2023

Conducted water quality monitoring for streams impacted by construction. Kanawha County, West Virginia

Wetland & Stream Delineation for Manchester Pike Project, TN 2023

Conducted a wetland and stream delineation for an approximately 25-acre site in Rutherford County, Tennessee

Wetland & Stream Delineation for Mantle Rock Solar Project, KY 2023

Conducted a wetland and stream delineation for an approximately 500-acre site in Livingston County, Kentucky

Wetland & Stream Delineation for Mastodon Solar Project, MI 2022

Conducted a wetland and stream delineation for an approximately 1,800-acre site in Lenawee County, Michigan

Wetland & Stream Delineation for KY-536 Expansion Project, KY 2022

Conducted a wetland and stream delineation for an approximately 150-acre site in Kenton County, Kentucky

Wetland & Stream Delineation for Fiddler Solar Project, TN 2022

Conducted a wetland and stream delineation for an approximately 800-acre site in DeKalb County, Tennessee

Wetland & Stream Delineation for Mount Vernon Trail (NPS), DC 2022

Conducted a wetland and stream delineation for an approximately 5-mile-long section of trail in Washington DC/Virginia.

Wetland & Stream Reconnaissance for Winner Solar Project, PA 2022

Conducted a wetland and stream delineation for an approximately 2000-acre site in Clearfield County, Pennsylvania

Wetland & Stream Delineation for Mammoth Cave Campground Rehabilitation (NPS) Project, KY 2022

Conducted a wetland and stream delineation for an approximately 100-acre site in Hart County, Kentucky

Wetland & Stream Delineation for Battelle Construction Project, KY 2022

Conducted a wetland and stream delineation for an approximately 100-acre site in Marshall County Kentucky

Wetland & Stream Delineation for EDP Solar Project, KY 2022

Conducted a wetland and stream delineation for an approximately 2,500-acre site in Breckinridge County Kentucky

Wetland & Stream Delineation for NPS Mammoth Cave Road Expansion, KY 2022

Conducted a wetland and stream delineation for an approximately 8-acre site in Mammoth Cave National Park Kentucky.

Wetland & Stream Delineation for CCR Tupelo MS Solar Project, MS 2022

Conducted a wetland and stream delineation for an approximately 3,000-acre site in Tupelo, Mississippi.

Wetland & Stream Delineation for TVA Powerlines (Barkley-Oakwood) Project, KY/TN 2022

Conducted a wetland and stream delineation for an approximately 60 linear mile site in the land between the lakes in Kentucky and Tennessee.

Wetland Delineation for CCR Strawhorn Solar Project, NC 2022

Conducted a wetland and stream delineation for an approximately 1200-acre site in Bladen County, North Carolina.

Wetland Delineation for Village at the Palisades, KY 2022

Conducted a wetland and stream delineation for an approximately 8-acre site in Mercer County, Kentucky.

Stream Assessment for Horse Soldier Distillery, KY 2022

Conducted a stream assessment for an approximately 236 -acre site in Somerset, Pulaski County, Kentucky.

Preliminary Wetland and Stream Assessment for Terry Shaw, P.E, KY 2022

Conducted a wetland and stream assessment for an approximately 215 -acre site in Henry County, Kentucky.

Wetland Delineation for Horseshoe Bend Solar Project, KY 2022

Conducted a wetland and stream delineation for an approximately 560-acre site in Green County, Kentucky.

The ecological correlates of the spread and invasion success of <u>Arundo donax</u> in central Texas - South Central Texas. 2019-2022. Designed, developed, and implemented a multistep experiment to inform management efforts of *Arundo donax* in central Texas. The two-phase experiment consisted of a

greenhouse experiment in which the ecological factors contributing to the performance-related traits *Arundo* were assessed. The second phase of the experiment used remote sensing to identify the spatial dynamics of *Arundo* spread following a 100-year flood event.

Comparative Anatomy of the Submersed and Emergent Stems and Leaves of *Shinnersia rivularis* (Asteraceae: Eupatorieae). 2019-2020 Developed and executed a comparative analysis of the anatomical characteristics of *Shinnersia rivularis*. Collected and stored in fixative live samples of submersed and emergent plant material. Made and analyzed microscope slides of stems and leaves to assess and quantify the difference in anatomical characteristics between submersed and emergent individuals.



JACOB MURPHY WETLAND SCIENTIST

Regulatory Expertise

- Clean Water Act
- USACE Nation Wide Permitting

Industry Clientele

 KY Department of Fish and Wildlife Resources

Environmental Services

- Stream Restoration
- Field Surveys
- Invasive Species Management

Survey Expertise

- Habitat Assessments
- Stream Water Quality Assessments
- Stream Fish Nesting Measurements
- Invasive Species Monitoring
- Electro Fishing
- Plant Community Surveys
- Crayfish Surveys

Certifications/Training

- Kentucky Department of Agriculture, Division of Environmental Services N2 Forestry Pesticide Applicators License
- Swamp School Training, 2022
- Winter Tree Identification Training, Berea Forest, 2022
- First Aid, CPR, AED Training

Education

M.S. Biology, 2022, Eastern Kentucky University, Richmond, Kentucky Graduate Advisor: Dr. Sherry Harrel

B.S. Biology, 2020, University of Kentucky

Experience

Copperhead Environmental Consulting Inc., Wetland Scientist, June 2022-present

Eastern Kentucky University, Graduate Research Assistant and Instructional Assistant for the Cellular and Molecular Biology Lab, August 2020 – May 2022



Qualifications and Background

Mr. Murphy is an ecologist with three years of experience working for Eastern Kentucky University and Copperhead Environmental Consulting. He has conducted master's level research on spawning habitat and nest density of the soon-to-be threatened or endangered Buck Darter (Etheostoma nebra) Cumberland River drainage, Kentucky. He has experience running and supervising the cellular and molecular lab at Eastern Kentucky University, as well as teaching a freshman course in the subject. Within his education, Mr. Murphy had experience conducting plant community surveys, presence/absence surveys, water quality assessments, and backpack and boat electro fishing. At Copperhead, Mr. Murphy has conducted and led wetland delineations in the field, written wetland reports for clients and the USACE, conducted water quality assessments, macroinvertebrate surveys, crayfish surveys, assisted in endangered fish species relocation and survey, and assisted in the writing of EAs, EISs, BAs, and BEs.

Presentations

"Comparison of Spawning Habitat and Nest Density Between Buck Darter (*Etheostoma nebra*) and Striped Darter (*Etheostoma virgatum*) Populations in the Cumberland River Drainage, Kentucky". Graduate Research Seminar, Eastern Kentucky University, March 2022

Project Experience

NPS FRST Trails EA, February 2024

Assisted in the outlining, writing, and proofreading of an environmental assessment as part of the NEPA process for the National Park Service.

Valhalla Storage Critical Issues Analysis, January 2024

Assisted in the outlining, writing, and proofreading of a critical issues analysis for the Valhalla Battery Storage Project in Tennessee.

USFS Montana Bonanza EA, January 2024

Assisted in the outlining, writing, and proofreading of an environmental assessment as part of the NEPA process for the US Forest Service.

Lark Storage Critical Issues Analysis, December 2023

Assisted in the outlining, writing, and proofreading of a critical issues analysis for the Lark Battery Storage Project in Iowa.

Old Fiddler Storage Critical Issues Analysis, December 2023

Assisted in the outlining, writing, and proofreading of a critical issues analysis for the Old Fiddler Battery Storage Project in Texas.

River King Storage Critical Issues Analysis, December 2023

Assisted in the outlining, writing, and proofreading of a critical issues analysis for the River King Battery Storage Project in Iowa.

Harbor Beach Storage Critical Issues Analysis, December 2023

Assisted in the outlining, writing, and proofreading of a critical issues analysis for the Harbor Beach Battery Storage Project in Michigan.

Alligator Snapping Turtle Habitat Assessment Monroe County, AR, November 2023

Conducted and lead an alligator snapping turtle habitat assessment for a potential solar development in Monroe County, Arkansas.

Alligator Snapping Turtle Habitat Assessment Hinds County, MS, November 2023

Conducted and lead an alligator snapping turtle habitat assessment for a potential solar development in Hinds County, Mississippi.

Taylorville Storage Critical Issues Analysis, November 2023

Assisted in the outlining, writing, and proofreading of a critical issues analysis for the Taylorville Battery Storage Project in Illinois.

Natchez Trace Programmatic Road EA, November 2023

Assisted in the outlining, writing, and proofreading of an environmental assessment as part of the NEPA process for the National Park Service.

Mountain View Storage Critical Issues Analysis, November 2023

Assisted in the outlining, writing, and proofreading of a critical issues analysis for the Mountain View Battery Storage Project in Virginia.

Kentucky Arrow Darter Survey and Relocation, Clay County, KY, October - December 2023

Assisted in Kentucky Arrow Darter identification, survey, and relocation each week for a bridge reconstruction in Clay County, Kentucky.

Van Kal Storage Critical Issues Analysis, October 2023

Assisted in the outlining, writing, and proofreading of a critical issues analysis for the Van Kal Battery Storage Project in Michigan.

USFS Gap EA, October 2023

Assisted in the outlining, writing, and proofreading of an environmental assessment as part of the NEPA process for the US Forest Service.

TVA Office EA, October 2023

Assisted in the outlining, writing, and proofreading of an environmental assessment as part of the NEPA process for the Tennessee Valley Authority.

Fort Knox Timber Stand Improvement, KY September 2023

Conducted timber stand improvement managing invasive species and nuisance species. Safely handled herbicide.

Mussel Survey of Fink Creek, Doddridge County, WV, August 2023

Conducted a survey for native and endangered mussel species within Fink Creek for a proposed natural gas pipeline project.

Wetland & Stream Delineation for the Ring Road Construction Project, Elizabethtown, KY, June 2023 Conducted a wetland and stream delineation for an approximately 50-acre site in Elizabethtown, Kentucky.

Fish Survey of Hinkston Creek, Bourbon County, KY, May 2023

Conducted a fish electroshock survey to calculate the index of biotic integrity to determine if Hinkston Creek is a good site for future mussel propagation efforts.

Wetland and Stream Delineation for the Mantle Rock Solar Project, Hampton, KY, April 2023

Conducted a wetland and stream delineation for an approximately 500-acre site in Hampton, Kentucky.

Wetland and Stream Delineation for the National Park Service's Natchez Trace Trail, Jackson, MS, March 2023

Conducted a wetland and stream delineation for a 2-mile stretch of walking trail in Jackson, Mississippi.

Water Quality Survey in Middlesboro, KY, December 2022.

Conducted fish shocking surveys, macroinvertebrate collections and water quality surveys in Yellow Creek, Middlesboro, Kentucky to determine water quality effects up and downstream of an historic building.



Fish Survey in Knox County, Kentucky, November 2022.

Conduced a fish shocking survey for a KYTC bridge replacement project in Tye Fork, Knox County, Kentucky.

Bat Habitat Survey for the EDP Solar Project, KY, November 2022.

Conducted a bat habitat survey looking for potential roost habitat for the Indiana Bat (*Myotis sodalis*), the Northern Long-eared Bat (*Myotis keenii*), and the Gray Bat (*Myotis grisescens*) on an approximately 690-acre site in Breckinridge County, Kentucky.

Crayfish Survey for the Kentucky Transportation Cabinet Bridge Program Project, Martin and Pike County, KY, November 2022

Collected and identified crayfish species within the impacted stream area, looking specifically for the threatened Big Sandy Crayfish (Cambarus callainus).

Crayfish Survey for the Kentucky Transportation Cabinet Bridge Program Project, Lawrence and Martin County, KY, November 2022

Collected and identified crayfish species within the impacted stream area, looking specifically for the threatened Big Sandy Crayfish (Cambarus callainus).

Wetland & Stream Delineation for Mastodon Solar Project, MI, November 2022

Conducted a wetland and stream delineation for an approximately 4,773-acre site in Lenawee County, Michigan.

Wetland & Stream Delineation for Fiddler Solar Project, TN, October - November 2022

Conducted a wetland and stream delineation for an approximately 870-acre site in DeKalb County, Tennessee.

Wetland and Stream Reconnaissance Survey for Winner Solar Project, PA, October 2022.

Conducted a wetland and stream reconnaissance survey to estimate feature sizes prior to project boundary decision on an approximately 4,362-acre site in Clinton County, Pennsylvania.

Crayfish Survey for the Kentucky Bridge Program Project, KY, September 2022

Collected and identified crayfish species within the impacted stream area, looking specifically for the threatened Big Sandy Crayfish (*Cambarus callainus*).

Fish Relocation for the Kentucky Bridge Program Project, KY, September 2022

Collected and identified fish within the impacted stream area and relocated the threatened Kentucky Arrow Darter (*Etheostoma spilotum*).

Wetland & Stream Delineation for EDP Solar Project, KY, July - August 2022

Conducted a wetland and stream delineation for an approximately 2,500-acre site in Breckinridge County, Kentucky.

Wetland Delineation for Geil Lane Project, KY, June 2022

Conducted a wetland delineation for an approximately 30-acre site in Jefferson County, Kentucky.

Comparison of Spawning Habitat and Nest Density Between Buck Darter (Etheostoma nebra) and Striped Darter (Etheostoma virgatum) Populations in the Cumberland River Drainage, Kentucky, March 2022.

Mr. Murphy collected nine nesting habitat measurements and nest density measurements for *Etheostoma nebra* and *Etheostoma virgatum* throughout the spawning season to compare between the declining Buck Darter population and the surviving Striped Darter populations. His findings were presented to employees of the Kentucky Department of Fish and Wildlife Resources and are to be used to help reintroduce populations of the species into streams with suitable habitat.