

Starfire Renewable Power Project

Breathitt, Knott, and Perry Counties, Kentucky

Water / Wetland Delineation Report

Submitted to:

STMO bn, LLC

c/o: Mr. Kevin Martin Vice President of Permitting, BrightNight

13123 E Emerald Coast Parkway Suite B#158 Inlet Beach, FL 32461

Submittal Date:

February 1, 2024

February 1, 2024

Mr. Kevin Martin STMO bn, LLC 13123 E Emerald Coast Parkway Ste B#158 Inlet Beach, FL 32461

Re: Water/Wetland Delineation Report – Starfire Renewable Power Project

Dear Mr. Martin:

Bacon Farmer Workman Engineering & Testing, Inc. (BFW) is pleased to submit our report documenting the findings of the Water/Wetland Delineation for the Starfire Renewable Power Project located in Breathitt, Knott, and Perry Counties, Kentucky. The study area consists of an approximately 1,800-acre site that has been designated as Phase S in initial mapping for the project that was prepared by BrightNight and submitted to BFW in communications dated July 21, 2023.

The purpose of the delineation was to gather sufficient information to render an independent professional opinion about whether jurisdictional waters and wetlands exist within the study area. The wetland delineation was conducted according to the guidelines set forth by the 1987 Corps of Engineers Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0). The delineation documented 36 isolated wetlands totaling 8.77 acres and two isolated open water ponds totaling 2.35 acres. No streams were delineated on the site. The United States Army Corps of Engineers (USACE) is the regulating authority of Section 404 of the Clean Water Act (CWA). This regulating entity must make the final decision with regards to the extent and jurisdictional status of any water/wetland features on this site.

We appreciate the opportunity to serve you and look forward to future association with you on this and other projects. If you have questions concerning this report or require further clarification of the findings, please call our office at (502) 526-3613.

Sincerely,

BACON | FARMER | WORKMAN

Laura Darnell

Wetland Scientist / Ecologist

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TABLE OF CONTENTS

1.	INTR	ODUCTI	ON	2
	1.1		SE	
	1.2		ESCRIPTION	
2.	TECH	HNICAL [DEFINITIONS	4
	2.1	WETLA	NDS	4
		2.1.1	Hydrophytic Vegetation	4
		2.1.2	Hydric Soils	
		2.1.3	Hydrology	5
	2.2	STREAM	MS AND DRAINAGES	5
3.	MET	HODS &	GENERAL SITE CHARACTERISTICS	7
	3.1	WETLA	ND DELINEATION	7
		3.1.1	Soils	
		3.1.2	Vegetation	7
		3.1.3	Hydrology	
	3.2	STREAM	M ÄSSESSMENT	10
	3.3		OUS JURISDICTIONAL DETERMINATIONS AND PERMITS	
4.	JURI		NAL WATERS SUMMARY & DESCRIPTIONS	
	4.1		NDS	
	4.2		GES	
			Man-Made Ditches	
	4.3		VATER PONDS	
6	DEE		0	16

APPENDICES

Appendix A – Maps

Appendix B – Tables
Appendix C – Wetland Determination Data Forms
Appendix D – Photographs

LIST OF ACRONYMS AND ABBREVIATIONS

BFW Bacon Farmer Workman Engineering & Testing, Inc.

CWA Clean Water Act

DMRE Division of Mine Reclamation and Enforcement

EKSAP Eastern Kentucky Stream Assessment Protocol

EPA Environmental Protection Agency

ESA Endangered Species Act
EUI Ecological Integrity Unit

FAC Facultative

FACW Facultative Wetland FACU Facultative Upland

FEMA Federal Emergency Management Agency

KDFWR Kentucky Department of Fish and Wildlife Resources

KDOW Kentucky Division of Water

KPDES Kentucky Pollutant Discharge Elimination System

NHD National Hydrography Dataset

NRCS Natural Resources Conservation Service

NWI National Wetland Inventory

NWP Nationwide Permit

NWPL National Wetland Plant List

OBL Obligate Wetland

PEM Palustrine Emergent Wetland

PUB Palustrine Unconsolidated Bottom (Pond)

RBP Rapid Bioassessment Protocol

SHPO State Historic Preservation Office SSURGO Soil Survey Geographic Database

UPL Obligate Upland

USACE United States Army Corps of Engineers
USDA United States Department of Agriculture
USFWS United States Fish and Wildlife Service
USGS United States Geological Survey

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ABSTRACT

Bacon Farmer Workman Engineering & Testing, Inc. (BFW) performed a water/wetland delineation for the Starfire Renewable Power Project which totals approximately 1,800 acres in Breathitt, Knott, and Perry Counties, Kentucky. The project area centroid is located at Latitude N 37.4112° and Longitude W 83.1233°. The delineation was performed to determine if wetlands, ponds, and/or streams were located within the study area in preparation of future development activities.

Field staff identified 11.12 acres of water/wetland features on site, including 36 wetlands totaling 8.77 acres, and two (2) open water ponds totaling 2.35 acres. No streams were found on the site. All features were determined to be isolated and not under the jurisdiction of the United States Army Corps of Engineers (USACE). It should be noted that the extent and jurisdictional status of water/wetland features on this site are subject to approval by the USACE for final determination.



1. INTRODUCTION

1.1 PURPOSE

Bacon Farmer Workman Engineering & Testing, Inc. (BFW) performed a water/wetland delineation on an approximately 1,800-acre site for the Starfire Renewable Power Project (Figures 1 and 2). The field work was completed on November 6 and 7, 2023. Figures referred to in this text are included in Appendix A at the end of this report.

The wetland delineation was conducted according to the guidelines set forth by the 1987 Corps of Engineers Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0). The United States Army Corps of Engineers (USACE) is the regulating authority of Section 404 of the Clean Water Act (CWA). This regulating entity must make the final decision with regards to the extent and jurisdictional status of any water/wetland features on this site.

The purpose of this study was to investigate the study area, identify areas meeting the technical criteria for wetlands, delineate the jurisdictional extent of the wetland basins, map other aquatic resources, and classify the wetland habitat. This assessment will be the basis on which regulated impacts to these resources will be determined for future project construction activities.

1.2 SITE DESCRIPTION

The study area consists of an approximately 1,800-acre site that includes land in southeastern Breathitt County, northwestern Knott County, and northeastern Perry County, Kentucky (Figures 1 and 2). The study area has been designated as Phase S in initial mapping for the project that was prepared by BrightNight and submitted to BFW in communications dated July 21, 2023. The project centroid is located at Latitude N 37.4112° and Longitude W 83.1233°.

The site has been extensively altered by coal mining activities which have occurred across much of the site for many decades. The original contours of the site which consisted of ridges and stream valleys have been largely replaced with large flat areas created through strip mining activities including hollow fills. Currently, the eastern portion of the site (approximately 700 acres) has active mining activities including coal extraction, mining spoil placement, and site stabilization. The western portion of the site consists mainly of land that has recently been stabilized and revegetated. Some areas in the south-central portion of the site have vegetation that was established over 20 years ago, including some research plots with planted trees that are managed by faculty of the University of Kentucky.

The water/wetland delineation documented 36 isolated wetlands totaling 8.77 acres and two (2) isolated open water ponds totaling 2.35 acres. No streams were delineated on the site.

The Starfire Renewable Power Project will involve the construction of solar panels along with associated on-site power lines, access roads, and other required infrastructure. The overall project will include off-site transmission lines to connect to electric infrastructure owned by other entities, but those transmission lines are not included in the scope of this study. Anticipated impacts to water and wetland resources resulting from the proposed project have not been analyzed at this time but can be calculated based on the project footprint and presented in a separate document at a later date if

Attachme	ent to RFI 1-51, Page 007 of 316	
	required. If construction activities are required outside of the study area that was assessed during this delineation, additional field work would be warranted.	
	3	

2. TECHNICAL DEFINITIONS

2.1 WETLANDS

Section 404 of the Clean Water Act defines Wetlands as:

"areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

The Environmental Protection Agency (EPA) and the Corps use the 1987 Corps of Engineers Wetlands Delineation Manual and Regional Supplements to define wetlands for the Clean Water Act Section 404 permit program. Section 404 requires a permit from the Corps or authorized state for the discharge of dredged or fill material into the waters of the United States, including wetlands.

The 1987 Corps of Engineers Wetlands Delineation Manual and Regional Supplements organize characteristics of a potential wetland into three (3) categories: soils, vegetation, and hydrology. The manual and supplements contain criteria for each category. With this approach, an area that meets all three (3) criteria is considered a wetland. These criteria are detailed below:

2.1.1 Hydrophytic Vegetation

Hydrophytic vegetation, due to morphological, physiological, and/or reproductive adaptation(s), has the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions. Individual species have been assigned a wetland indicator status by the National Wetland Plant List designated by the USACE.

A plant community is considered hydrophytic when more than 50% of the dominant species from all strata are Obligate Wetland (OBL), Facultative Wetland (FACW), or Facultative (FAC). If all dominants are FAC, the vegetation criteria can be disregarded, and the determination is based on soil and hydrology criteria.

Indicator Status	Probability of Occurrence in Wetlands
Obligate Wetland - OBL	> 99%
Facultative Wetland - FACW	67-99%
Facultative - FAC	34-66%
Facultative Upland - FACU	1-33%
Obligate Upland - UPL	< 1%

Secondary vegetation rules include observed physiological adaptations, plants growing in saturated soils, and the FAC neutral test.

2.1.2 Hydric Soils

Hydric soils are present if they have been classified as hydric or when they possess characteristics associated with anaerobic soil conditions. Hydric soils are those that are gleyed or have a low chroma matrix (2 or less) with redoximorphic features, or a matrix chroma of 1 with or without redoximorphic

feature in the upper 12 inches. These designations are made utilizing a Munsell Soil Color Chart.

2.1.3 Hydrology

Hydrology in wetlands occurs in areas inundated permanently or periodically at mean water depths < 6.6 feet, or if the soil is saturated to the surface for five percent (5%) of the prevalent vegetation's growing season. Indicators of wetland hydrology could be present above or below the surface.

Primary indicators of hydrology include, but are not limited to:

- inundation
- saturation in the upper 12 inches
- oxidized rhizospheres
- watermarks on standing structures
- water-stained leaves
- sediment deposits

Secondary indicators of wetland hydrology [two (2) or more required] include, but are not limited to:

- FAC neutral test
- a sparsely vegetated concave surface
- wetland drainage patterns
- crayfish burrows

2.2 STREAMS AND DRAINAGES

Stream classifications of perennial, intermittent, and ephemeral were applied based on definitions in publications created or endorsed by the Kentucky Energy and Environment Cabinet, Department for Environmental Protection (KDOW 2011 and Tetra Tech, Undated).

Perennial streams were characterized as having flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow.

Intermittent streams were characterized as having flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Ephemeral streams were characterized as typically having flowing water only during rainfall events and for a short time afterward in a typical year. Ephemeral stream beds are located above the water table year-round, so groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Non-jurisdictional ditches were classified according to the definition presented by the Environmental Protection Agency (EPA) within the "Revised Definition of "Waters of the United States" issued on January 18, 2023. These features are defined as being ditches

Attachment to RFI 1-51, Page 010 of 316
(including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water.
6

3. METHODS & GENERAL SITE CHARACTERISTICS

3.1 WETLAND DELINEATION

The wetland delineation was conducted according to the guidelines set forth by the 1987 Corps of Engineers Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0).

3.1.1 Soils

Soils were observed to determine if hydric soil characteristics were present. Soils were examined at shallow test pits dug with a drain spade and were observed at a depth necessary to confirm hydric soil characteristics. Typical soil profile depths are within 12-18 inches below ground surface to allow for: (1) observation of an adequate portion of the soil profile to determine presence/absence of hydric soil characteristics; (2) observation of hydrology including depth to the water table and saturated soils; and (3) identification of disturbances (e.g., buried horizon, plow line, etc.). Where site conditions preclude observing soil profile depths at the typical 12-18 inches below ground surface or where observed hydric soil indicators are documented above or below 12-18 inches below ground surface, justification is provided. Soil color determinations were made using Munsell Soil Color Charts (Gretag-Macbeth 1994).

Site soil characteristics were compared to those mapped and described in the Soil Survey Geographic (SSURGO) Databases for Breathitt County (USDA 2023), Knott and Letcher Counties (USDA 2023), and Leslie and Perry Counties, Kentucky (USDA 2023). Hydric soil characteristics were compared to those identified in the Eastern Mountains and Piedmont Regional Supplement (USACE 2010) and the most recent version of the Natural Resources Conservation Service (NRCS) publication Field Indicators of Hydric Soils in the United States, Version 7.0 (USDA 2010). Hydric Soil Category ratings (USDA 2022) were also reviewed for soils in the project area. Results were recorded on the attached data forms (Appendix C). The soil survey map for the study area is presented in Figure 4. Some of the main soil types within the study area include:

- FbD: Fairpoint and Bethesda soils, 0-20% slopes. This soil is listed as not hydric and not prime farmland.
- FkE: Fiveblock and Kaymine soils, 0-30% slopes, stony. This soil is listed as not hydric and not prime farmland.
- FaB: Fairpoint soils, undulating. This soil is listed as not hydric and not prime farmland.

Soils were examined at several locations including 65 data points which are depicted in Figure 3 and the data forms are attached in Appendix C. Hydric soil indicators observed included the Depleted Matrix indicator (F3) and Sandy Redox indicator (S5).

3.1.2 Vegetation

Wetland plant species nomenclature follows the National Wetland Plant List (USACE 2020). Identification was aided, when necessary, with field guides for the region. Vegetation was sampled in plots:

- 30-ft radius for tree stratum
- 15-ft radius for sapling and shrub stratum
- 5-ft radius for herb stratum
- 30-ft radius for woody vines

Vegetation was classified using the USACE 2020 National Wetland Plant list (NWPL). Unless otherwise stated, aerial coverage dominance was determined using the 50/20 rule. Under the 50/20 rule, any plant species that equals or exceeds 20% of the aerial coverage of the plot is a dominant plant. In addition, the cumulative total of all dominant plants (OBL, FACW, or FAC) must be equal to or greater than 50% of the aerial coverage of the plot. If no plant species equals or exceeds 20% of the cumulative total aerial coverage of the plot, then the dominant plants are the plants that when ranked in decreasing order of abundance and summed, immediately exceed 50% of the plots aerial coverage when added together.

Currently, the eastern portion of the site (approximately 700 acres) consists mainly of actively mined land with minimal vegetation. The remainder of the study area contains land in various stages of reclamation. Habitats within the study area include open field, scrub/shrub, upland woods, and emergent wetland. It is assumed that some of the plant species on site were seeded or planted as part of land reclamation, but we do not have any reclamation planting lists at this time.

Open field habitat was present across much of the site, particularly in the southern and western sections. The most abundant plant species in the open fields include Chinese lespedeza (*Lespedeza cuneata*), little bluestem (*Schizachyrium scoparium*), fescue (*Schedonorus arundinaceus*), Canada goldenrod (*Solidago canadensis*), asters (*Symphyotrichum* spp.), Chinese silvergrass (*Miscanthus sinensis*), annual ragweed (*Ambrosia artemisiifolia*), and sycamore saplings (*Platanus occidentalis*). These species are listed as FACU and FACW on the 2020 NWPL.

Scrub/shrub habitat was scattered across many areas of the site and was most common in the central part of the site. Common plant species in the scrub/shrub habitat include autumn olive (*Elaeagnus umbellata*), blackberry (*Rubus allegheniensis*), multiflora rose (*Rosa multiflora*), sycamore, sumac (*Rhus* sp.), and Japanese honeysuckle (*Lonicera japonica*). These species are listed as FACU and FACW on the 2020 NWPL.

Common plant species in the emergent wetlands included narrowleaf cattail (*Typha angustifolia*), woolgrass (*Scirpus cyperinus*), blunt spikerush (*Eleocharis obtusa*), soft rush (*Juncus effusus*), and barnyard grass (*Echinochloa muricata*). These species are listed as OBL and FACW on the 2020 NWPL.

Upland woods habitat was present in a few areas on site where woody species had grown with sufficient size and density to create a closed canopy. A small amount of upland woods is located around Chestnut Gap Cemetery in the southwestern part of the site. This area contained white oak (*Quercus alba*), other oak species (*Quercus spp.*), hickory (*Carya sp.*), and pine (*Pinus sp.*).

3.1.2.1 Planted Research Plots

The majority of the upland woods habitat was in the central section of the site. particularly in and around the tree research plots. Based on information from site management, the tree plot research was run by Donald Graves and Christopher Barton from the University of Kentucky Department of Forestry. The location and composition of the tree plots appears to match the research described in the paper Surface Mine Reforestation Research: Evaluation of Tree Response to Low Compaction Reclamation Techniques (Angel et al. 2006). This paper indicates that the following tree species were planted in 1996 and 1997: white oak, white ash (Fraxinus americana), eastern white pine (Pinus strobus), northern red oak (Quercus rubra), black walnut (Juglans nigra), and yellow poplar (Liriodendron tulipifera). Royal paulownia (Paulownia tomentosa) was also planted in the reclamation cells at a later date. The paper also noted that sycamore, black locust (Robinia pseudoacacia), and yellow birch (Betula alleghaniensis) trees established on site as volunteers. Several of these tree species were observed on site. The upland woods species are listed as UPL, FACU, FAC, and FACW on the 2020 NWPL.

In addition, the Starfire project team received email correspondence from Dr. Jeffrey Stringer of the University of Kentucky Department of Forestry on September 20, 2023. Dr. Stringer sent mapped outlines of rectangular tree plot cells 1 through 6 from the above-referenced research project but indicated that cells 7 through 9 had been destroyed. He also sent a mapped outline located west of the rectangular plots which is designated as the 2003 EP Area. These areas are depicted in Figure 3. Dr. Stringer emphasized that it is very important to his department that plots 1-6 and the 2003 EP Area be retained for continuing research.

3.1.3 Hydrology

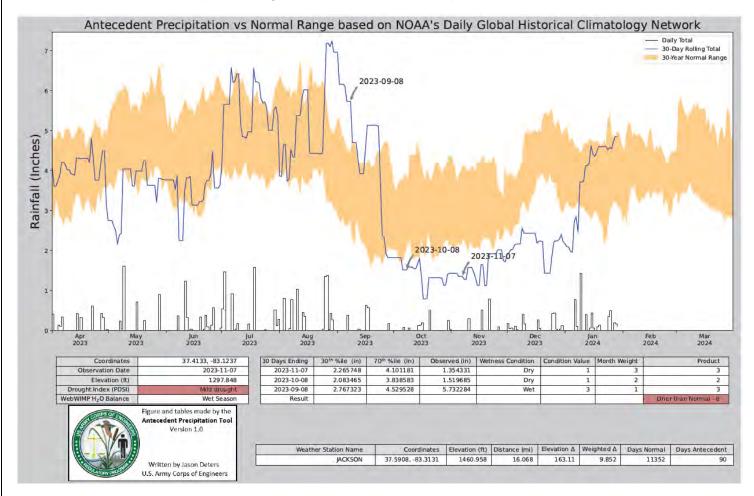
Hydrology within the study area was evaluated by observing field indicators. Sources of hydrology for the study area were largely limited to precipitation due to the elevated position of the study area compared to the surrounding landscape. Within the study area, extensive areas have flat or concave topography where surface water collects in small depressions or soaks into the ground. Several of these depressions have developed into emergent wetlands. Some of the study area, particularly in the northern section, has sloped ground that drains to adjacent properties either through surface flow or within constructed drainages armored with riprap.

The study area is not overlapped by any Federal Emergency Management Agency (FEMA) floodplain zones, and the nearest mapped 100-year floodplains are along major streams such as Troublesome Creek, Balls Fork, and the lower reach of Buckhorn Creek (Figure 5). The National Wetlands Inventory (NWI) map for the area (Figure 6) depicts several water and wetland features within the study area, and the USGS topographic map (Figure 1) depicts some blueline streams in the western half of the site. However, the NWI and USGS maps are out of date due to recent changes in site topography. The mapped and existing features are discussed further in Section 4 below.

Wetland hydrology indicators were observed at all of the on site wetland locations as well as some upland areas. These indicators were recorded on the data forms (Appendix C) and are also documented in photographs of the site

(Appendix D). Numerous hydrology indicators were observed in the various wetlands across the site, with the most common ones being soil saturation, saturation/inundation visible on aerial imagery, oxidized rhizospheres on living roots, drainage patterns, geomorphic position, and the FAC-neutral test.

The USACE Antecedent Precipitation Tool (Deters 2023) was reviewed for the project location at the time of the field assessments to determine if recent precipitation for the area was within normal ranges. The tool rated November 7, 2023 as "Drier Than Normal - 8" and generated a drought index rating of "incipient drought." The screenshot below provides an overview of this data.



3.2 STREAM ASSESSMENT

The protocol for the field assessment involved formal stream quality assessments for any intermittent or perennial streams encountered using the Rapid Bioassessment Protocol (RBP) method (Barbour 1999 and KDOW 2011). Because the study area lies within the Eastern Kentucky Coalfield region, the stream assessment method also involved a conductivity measurement using handheld water quality meter in accordance with the Eastern Kentucky Stream Assessment Protocol (USACE, Undated). No quality assessments were planned for ephemeral streams because it appears that these features have been classified as non-jurisdictional, non-relatively permanent waters under the new delineation standards established following the recent *Sackett vs. Environmental Protection Agency* Supreme Court ruling.

The protocol for field documentation for on-site streams included photographs, location, typical dimensions, and substrate material. Stream lengths, channel location, limits, and flow regime would also be determined through a combination of field assessment and in-house mapping. However, no perennial, intermittent, or ephemeral streams were found during the field assessment; therefore, no stream assessment forms or water quality measurements were collected on the site. See Appendix D for a selection of photographs representative of site conditions as well as drainage features that did not meet criteria to be classified as streams.

3.3 PREVIOUS JURISDICTIONAL DETERMINATIONS AND PERMITS

As discussed in previous sections, the site has been extensively altered by coal mining activities which have occurred across much of the site for many decades. The site alterations have eliminated several streams that were historically present on the site. Our understanding is that several permits and authorizations were issued for these activities over the years and subsequently closed.

One current or recent permit for site alterations related to water and/or wetland impacts is known to overlap the southwestern portion of the study area and is depicted in Figure 3. Our understanding is that the permit holder is ICG Hazard LLC or one of its subsidiaries. No specifics about the permitted activities or impacts were provided to BFW at this time.

In addition, based on communication from site management (Blackhawk), a Kentucky Kentucky Pollutant Discharge Elimination System (KDPES) permit covers the entire site and has many outfalls but none of the outfalls are located within the site boundary. Other environmental permits, including Division of Mine Reclamation and Enforcement (DMRE) permits, are also active within or adjacent to the study area. However, these permits are outside the scope of this report.

4. JURISDICTIONAL WATERS SUMMARY & DESCRIPTIONS

The water/wetland delineation documented 11.12 acres of water/wetland features on site, including 36 wetlands totaling 8.77 acres, and two (2) open water ponds totaling 2.35 acres. No streams were found on the site. These features are presented in Tables 1 and 2 (Appendix B).

Based on the field assessment, all delineated water and wetland features appear to be isolated from downstream waters, which would classify them as outside the jurisdiction of the U.S. Army Corps of Engineers (USACE) and Kentucky Division of Water (KDOW). However, please note that the USACE is the regulating authority of Section 404 of the Clean Water Act and must make the final decision with regards to the extent and jurisdictional status of any water/wetland features on this site.

All associated datasheets for this delineation can be found in Appendix C. Photographs of the study area and representative waters and wetlands can be found in Appendix D.

4.1 WETLANDS

The study area contains 36 wetlands that were all classified as the palustrine emergent (PEM) habitat types (Cowardin et al. 1979). The wetlands are depicted in Figure 3 and are summarized in Table 1 located in Appendix B. None of the delineated wetlands have discernible surface connections to downstream waters, so they are considered to be isolated and not under the jurisdiction of the USACE.

The wetlands are scattered across the site but are most common in the southern and southwestern sections. The majority of the wetlands lie in small depressions on flat landforms where water from precipitation is collected. Several of the wetlands are located at the base of slopes and likely receive some seepage from higher ground. All of the wetlands within the study area are relatively small, with 34 of the 36 wetlands measuring less than one acre.

The largest wetlands are Wetland M (2.5 acres) and Wetland H (1.18 acres), which are located in the central part of the site near a gravel access road. Both of these wetlands are located in low, open areas where surface water is retained in shallow depressions. Wetland AB (0.30 acre) in the southwestern part of the site is the only wetland in the study area that surrounds a pond.

As noted in Section 3.1.3, the National Wetlands Inventory (NWI) map (Figure 6) depicts a few palustrine emergent wetlands within the study area. However, those mapped wetlands features appear to be based on outdated mapping for the site and there is little to no consistency between the NWI mapping and the current distribution of wetlands on the site.

4.2 DRAINAGES

The site delineation found that although many drainages are present on the site that channel surface water, none of these features meet criteria for classification as a stream. Therefore, no streams were delineated on site and no formal stream quality assessments using the Rapid Bioassessment Protocol (RBP) method or water quality meters were completed within the study area.

As noted in Section 3.1.3, the site has been altered by coal mining activities and some outdated maps of the site depict streams that are no longer present. These include the USGS topographic map (Figure 1) and National Wetlands Inventory map (Figure 6). The NWI map depicts one intermittent and/or perennial stream (R4SBC and R5UBH) in

the southwestern section of the site, which corresponds to the named stream Kitchen Fork on the USGS topographic map. However, mining activities have changed the topography of the site and no stream was observed in this location during the field assessment. Two (2) additional named streams, Chestnut Gap Branch and Spring Gap Branch, are also depicted on the USGS map in the northwestern part of the site, but those streams no longer exist at that location.

4.2.1 Man-Made Ditches

The modifications to the topography on site include the construction of permanent and temporary ditches to channel stormwater and prevent soil erosion. The delineation procedures defined ditches as being excavated wholly in dry land and draining only dry land, and not carrying a relatively permanent flow of water. The current location of ditches on site was not mapped because these features are man-made, they are not under USACE jurisdiction, and the location of the ditches is likely to change as grading on the site continues.

Ditches on the site vary from narrow, shallow drainages to large, reinforced drainage channels armored with riprap and boulders. Evidence of flow was observed in only a few sections of the ditches and the flow indicators faded out without connecting to downstream defined drainages. The Kentucky Division of Water's Water Quality Certification Map Viewer Tool (KDOW 2024), which incorporates updated mapping, shows no NHD Blue Line Waters on the site with the exception of one blue line in the northern portion of the site. This line is classified by the tool as an unnamed Canal/Ditch. The line overlaps approximately 900 feet of the downstream end of a constructed ditch which is reinforced with riprap and boulders.

4.3 OPEN WATER PONDS

The study area contains two (2) open water ponds totaling 2.35 acres. These ponds have a habitat classification (Cowardin et al. 1979) of palustrine unconsolidated bottom (PUB). As noted in Section 3.1.3, the NWI map (Figure 6) depicts several ponds within the study area. However, the mapped ponds appear to be based on outdated mapping for the site and there is little to no consistency between the NWI mapping and the current location of the two existing ponds on the site. Based on historical aerial imagery, it appears that both ponds were created within the past 15 years when site work developed the basins as part of the new site topography.

The ponds are depicted in Figure 3 and are summarized in Table 2 located in Appendix B. Both ponds are considered to be isolated and not under USACE jurisdiction because they do not have a defined surface connection to downstream waters. The pond determinations have been assigned pending final USACE verifications.

5. DISCUSSION

The water/wetland delineation documented 11.12 acres of water/wetland features within the study area, including 36 wetlands, two (2) ponds, and no stream features (Figure 3). Tables 1 and 2 present the tentative jurisdictional status of these features; however, this report is subject to approval by the United States Army Corps of Engineers (USACE).

If USACE review determines that jurisdictional streams, wetlands, or ponds are present within the project footprint, these features are protected by several regulations. Impacts to jurisdictional streams, wetlands, and ponds in Kentucky are regulated by the USACE and the Kentucky Division of Water (KDOW). Project impacts totaling over 0.5 acre of jurisdictional waters/wetlands require an application for an Individual Permit from the USACE. Project impacts of up to 0.5 acre of jurisdictional waters/wetlands can likely be permitted under a Nationwide Permit (NWP) 51 for land-based renewable energy generation facilities from the USACE. NWP 51 has no provision that limits the linear feet of stream that can be impacted under this NWP, as long as overall acreage limits are not exceeded. Project impacts of over 0.10 acre of jurisdictional waters under NWP 51 require submittal of a Preconstruction Notification to the USACE.

According to the USACE posting of reissuance and modification of Nationwide Permits on January 13, 2021, electric utility lines constructed to transfer the energy from the land-based renewable energy generation facility to a distribution system, regional grid, or other facility are generally considered to be linear projects and each separate and distant crossing of a waterbody is eligible for treatment as a separate single and complete project. Those electric utility lines may be authorized by NWP 57 or another Department of the Army authorization.

It should also be noted that any work activities that are authorized through meeting the conditions of a General Water Quality Certification for NWP 57 for Electrical Utility Lines must meet condition #12, which states that "Utility lines trenched parallel to the stream shall be located at least 50 feet from an intermittent or perennial stream, measured from the top of the stream bank. Construction within the 50-foot buffer may be authorized if avoidance and minimization efforts are shown and adequate methods are utilized to prevent soil from entering the stream." This condition is not included in the requirements for a General Water Quality Certification for NWP 51 for Land-Based Renewable Energy Generation Facilities, but the establishment of a 50-foot buffer from adjacent stream banks and/or implementation of best management practices is recommended in these cases as well. These requirements do not apply if an impact to the stream is authorized by permits.

Project impacts totaling over 0.5 acre of jurisdictional waters/wetlands or over 300 linear feet of perennial and intermittent stream require an application for an Individual Water Quality Certification from the KDOW. Projects that have impacts under these thresholds may be able to be permitted under a general water quality certification provided that the project meets certain conditions. Projects that involve activities within the FEMA 100-year floodplain or activities within the floodplain of certain streams require an application for a floodplain permit from the KDOW.

The USACE and KDOW require compensatory mitigation for projects with water/wetland impacts that exceed thresholds of 0.1 acre of wetlands and/or ponds, or 0.03 acre of stream. Required mitigation amounts for wetlands are generally calculated based on the acreage of the impact multiplied by a value of 2, with an additional 1.2 temporal loss multiplier applied if mitigation credits are obtained from an in-lieu fee program. The rationale for the temporal loss ratio is because it requires several years for habitats funded by the in-lieu fee program to be constructed and the streams and wetlands are not generating ecological benefits during that

time. Current prices for wetland credits from the Kentucky Department of Fish and Wildlife Resources (KDFWR) in-lieu fee program are \$78,000 per credit throughout Kentucky. Mitigation credits may also be available from an established mitigation bank, and these would not incur the temporal loss premium.

Required mitigation amounts for streams are calculated based on the type of stream and its geographic location. This project is located within the Eastern Kentucky Coalfield Region, where stream function is calculated through the Eastern Kentucky Stream Assessment Protocol (EKSAP). The EKSAP typically involves a Rapid Bioassessment Protocol (RBP) assessment and a water conductivity measurement, although additional data collection such as macroinvertebrate surveys may also be required. The output of the EKSAP calculation is an Ecological Integrity Unit (EIU) value for the assessed stream. This project lies within the Upper Kentucky River service area, which has a cost of \$930 per EUI from the KDFWR inlieu fee program. Mitigation credits may also be available from an established mitigation bank, and these would not incur the temporal loss premium.

Section 7 of the Endangered Species Act (ESA) requires consultation with the United States Fish & Wildlife Service (USFWS) for projects that receive a federal permit, federal funding, or federal oversight, and Section 10 of the ESA applies to many activities that may affect listed species and their habitats, even without a federal nexus. Consultation with the USFWS should be conducted once final design plans are completed and it is determined which activities have the potential to affect protected species. BFW is preparing a separate Protected Species Review report for the Starfire site to address these issues.

Consultation through the USACE or other federal agency and potentially the State Historic Preservation Office (SHPO) is required for projects that receive a federal permit, federal funding, or federal oversight in order to ensure that the project will not impact properties listed on or eligible for the National Register of Historic Places. This consultation may require surveys for archaeological or cultural-historic resources within the project area. BFW prepared a separate cultural resource Technical Memorandum for the Starfire site which was submitted on December 20, 2023.

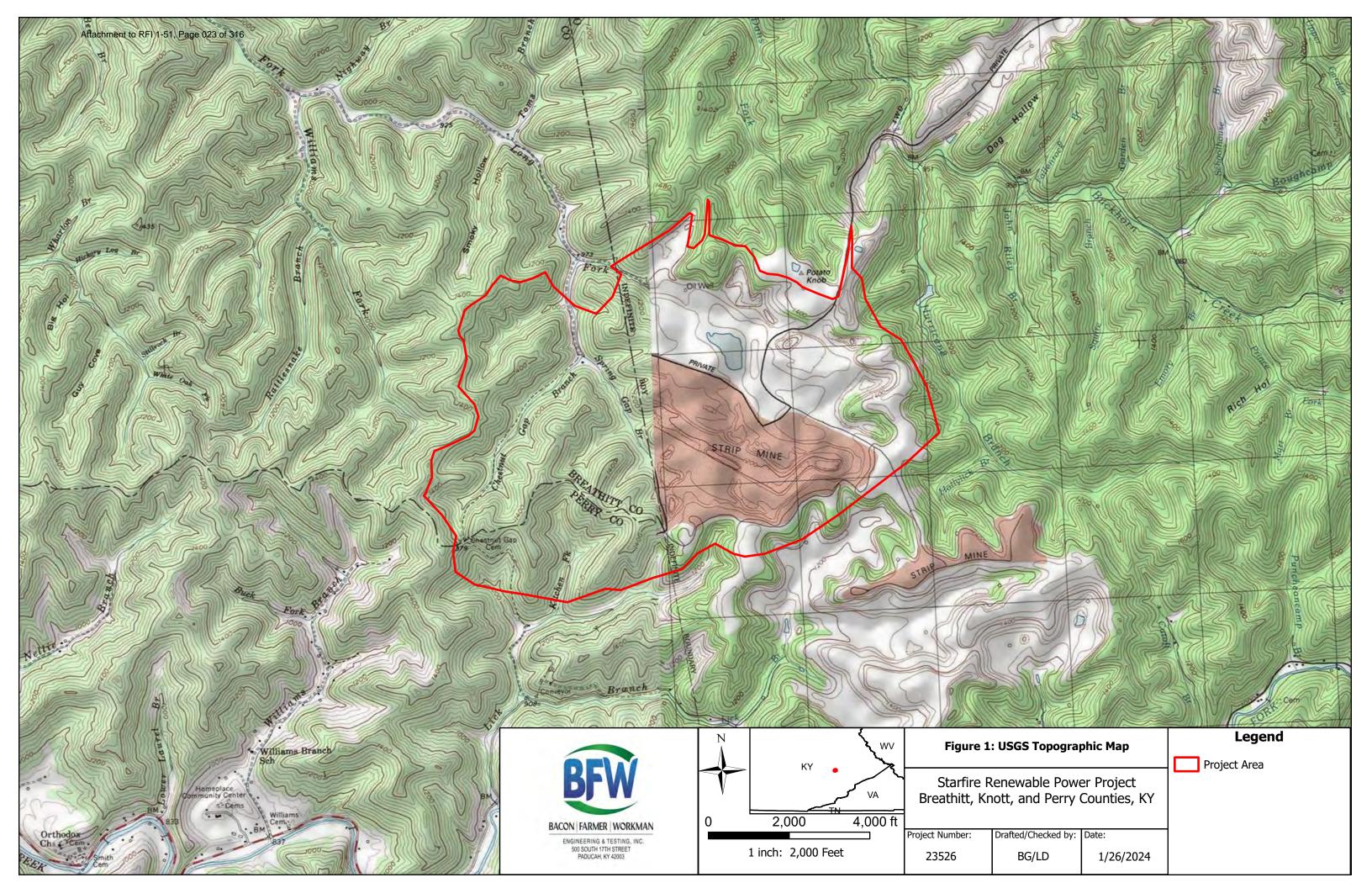
6. REFERENCES

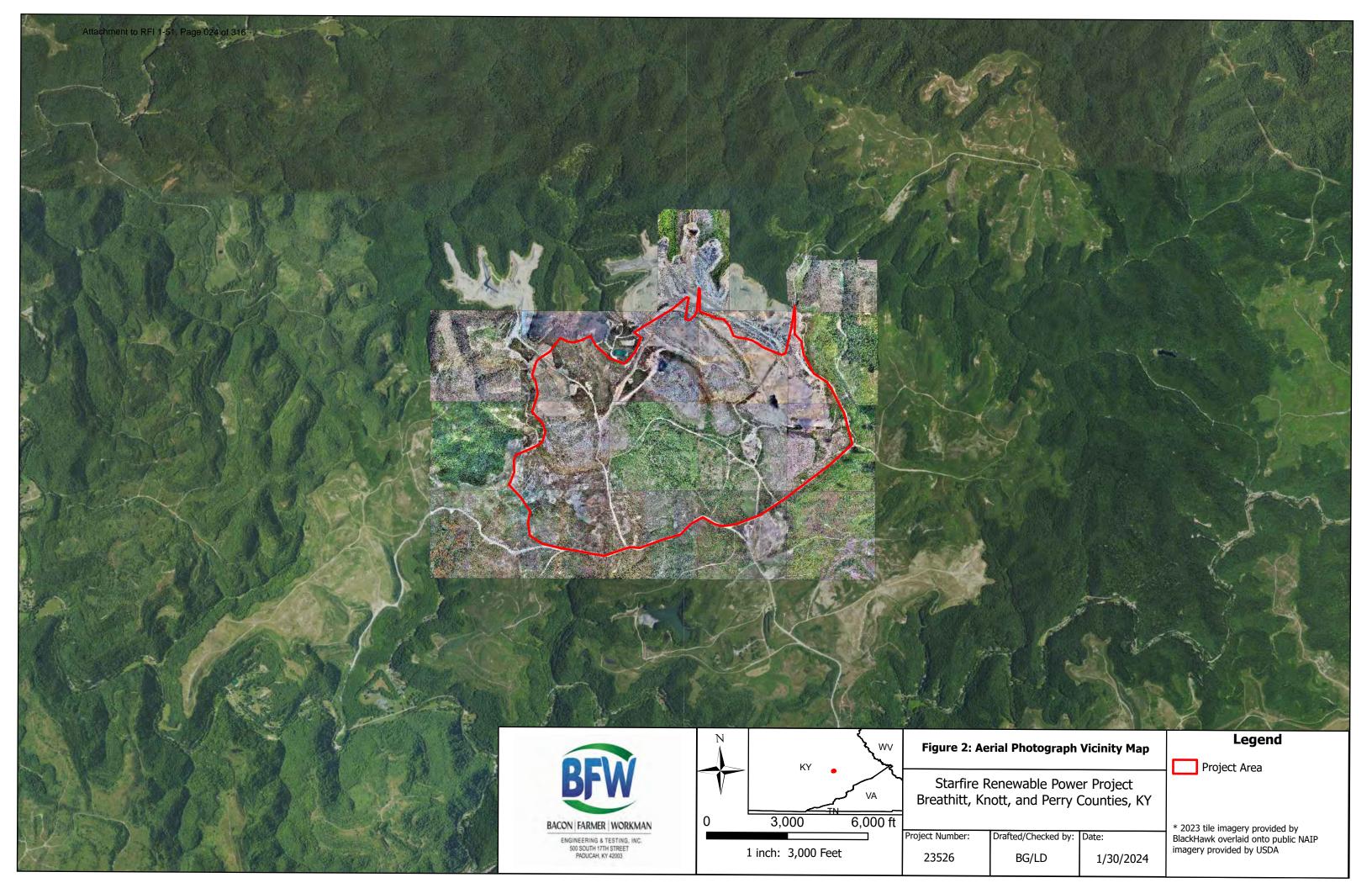
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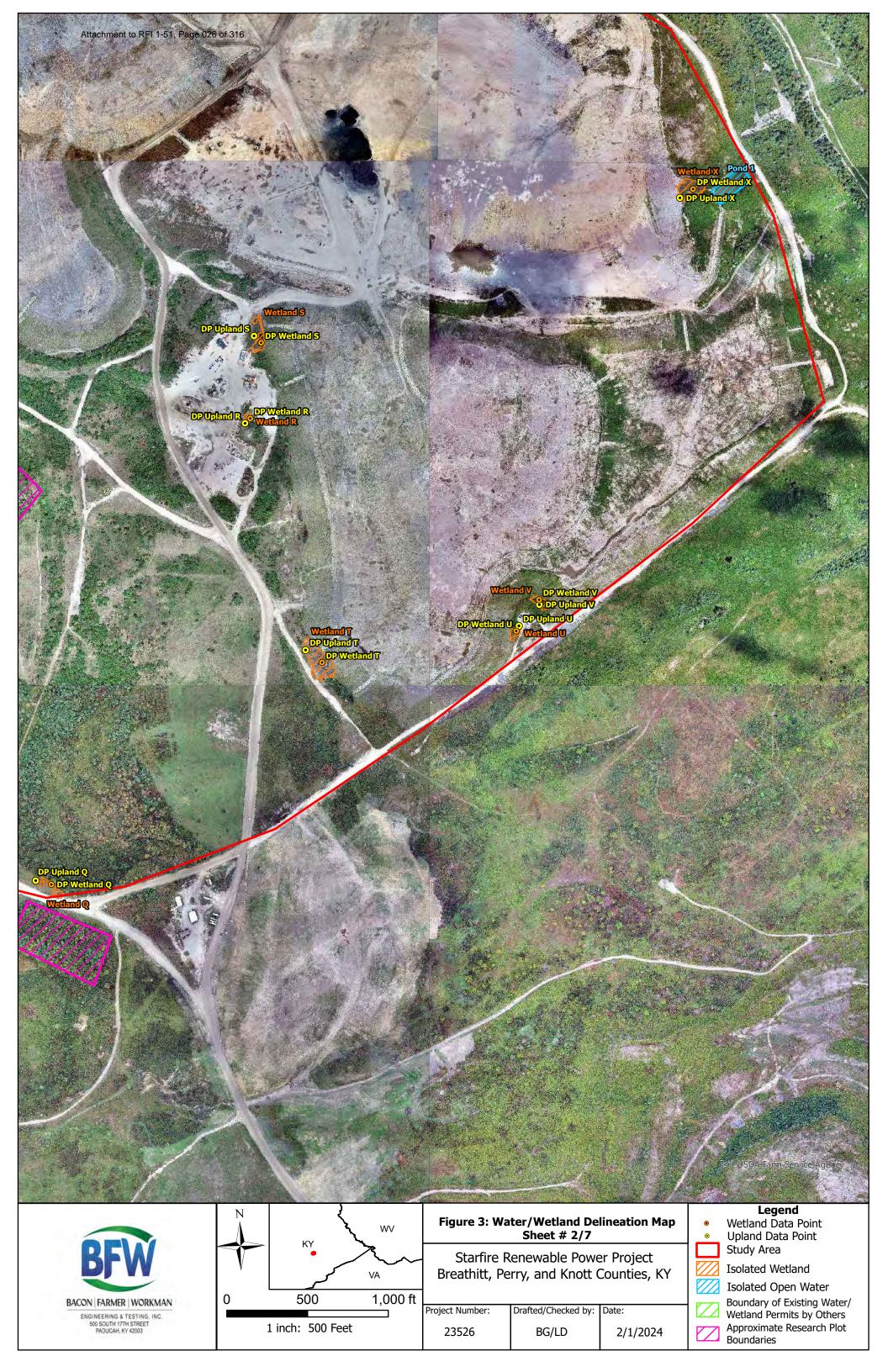
Attachment to RFI 1-51, Page 022 of 316		
	Appendix A	
	Maps	
	Ινίαμο	

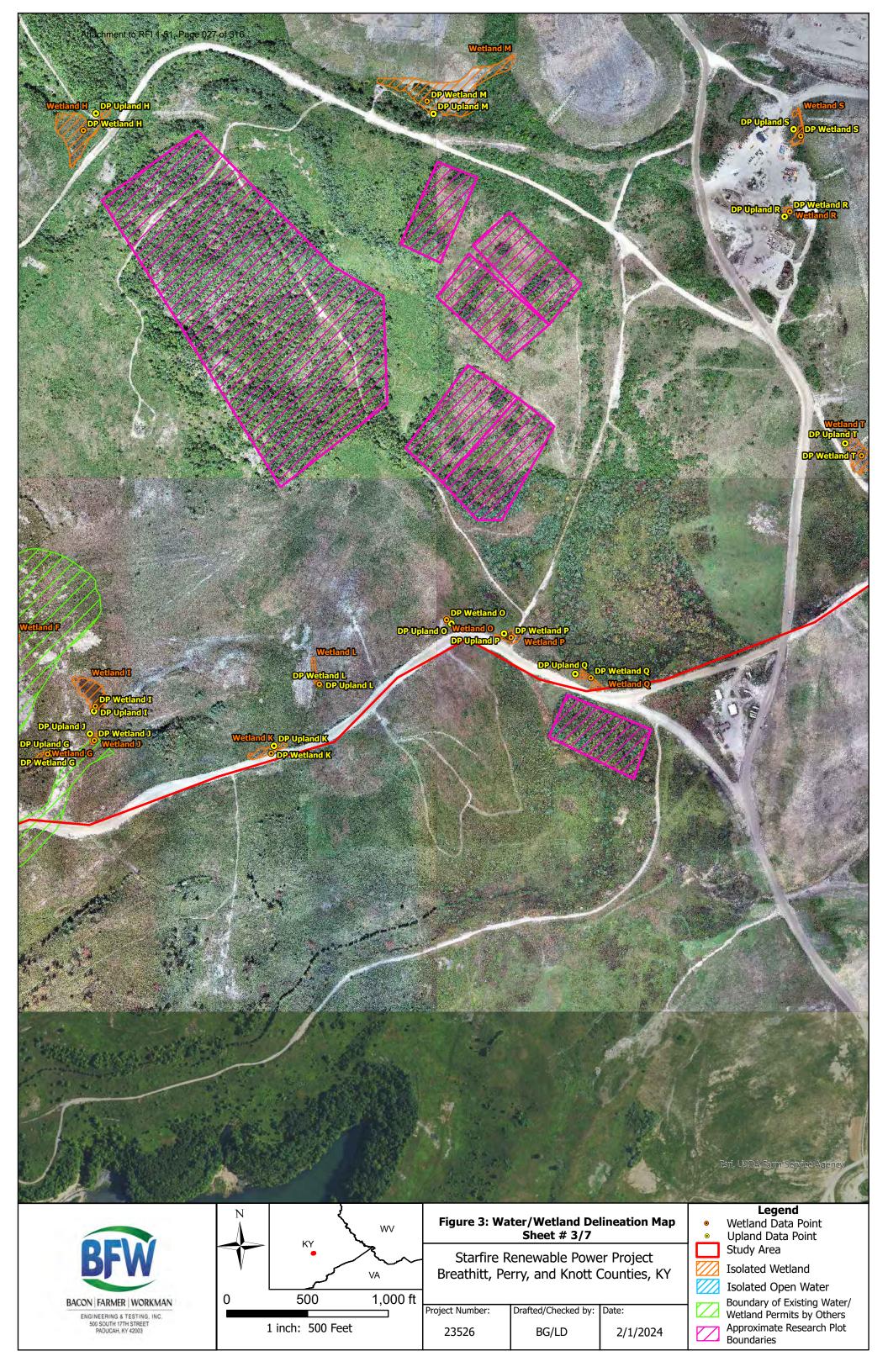
Project No.: 23526

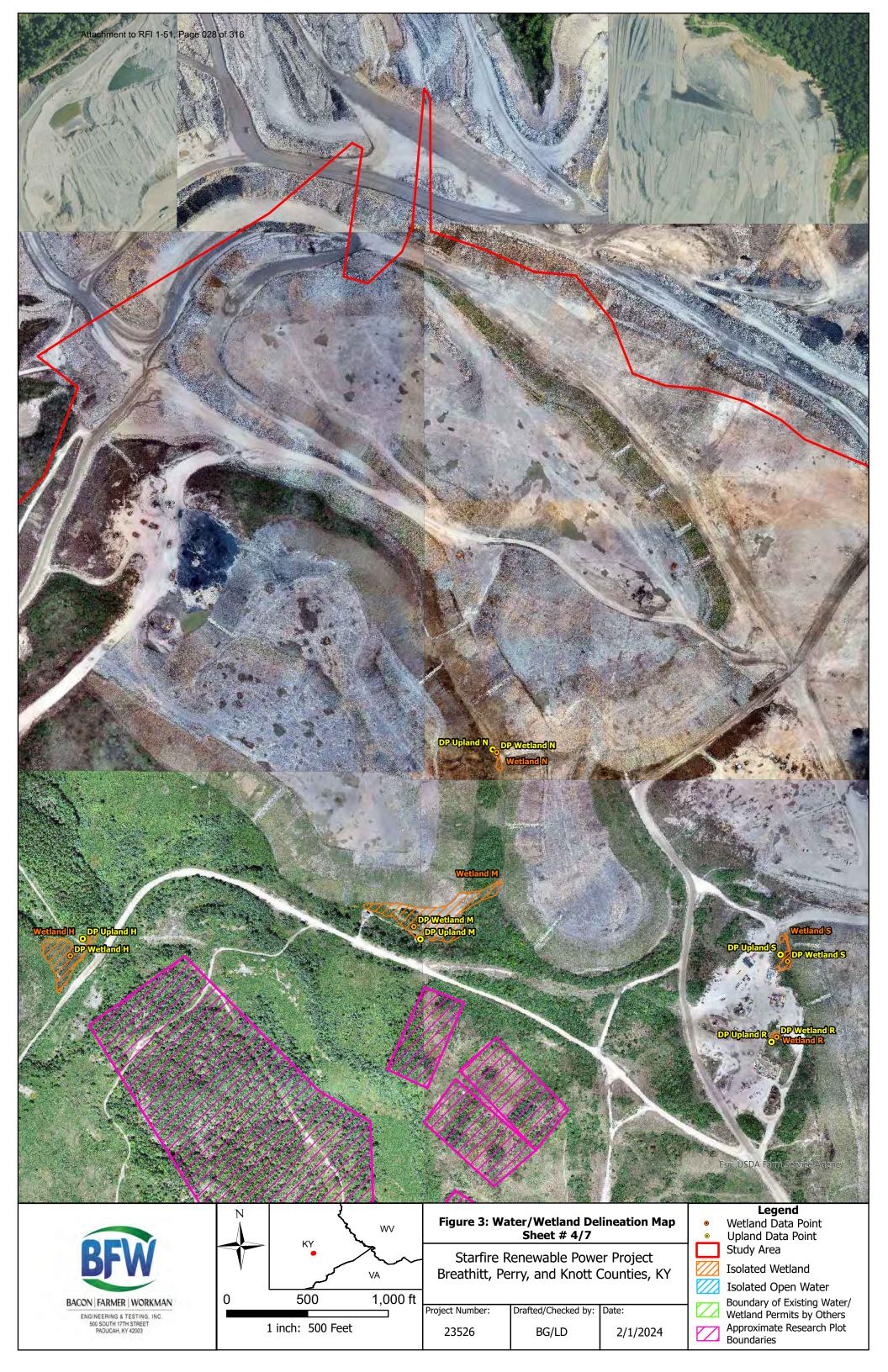








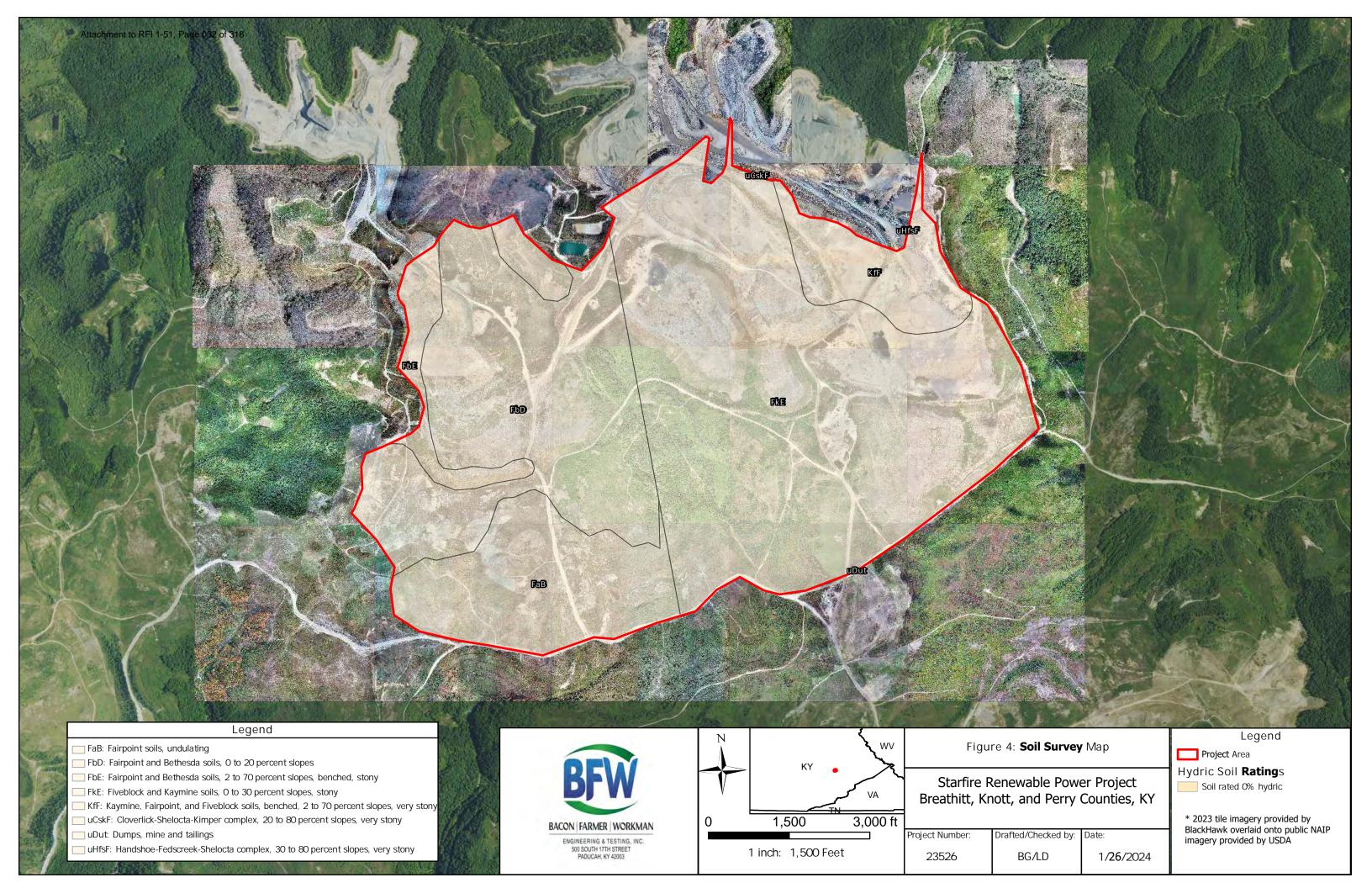


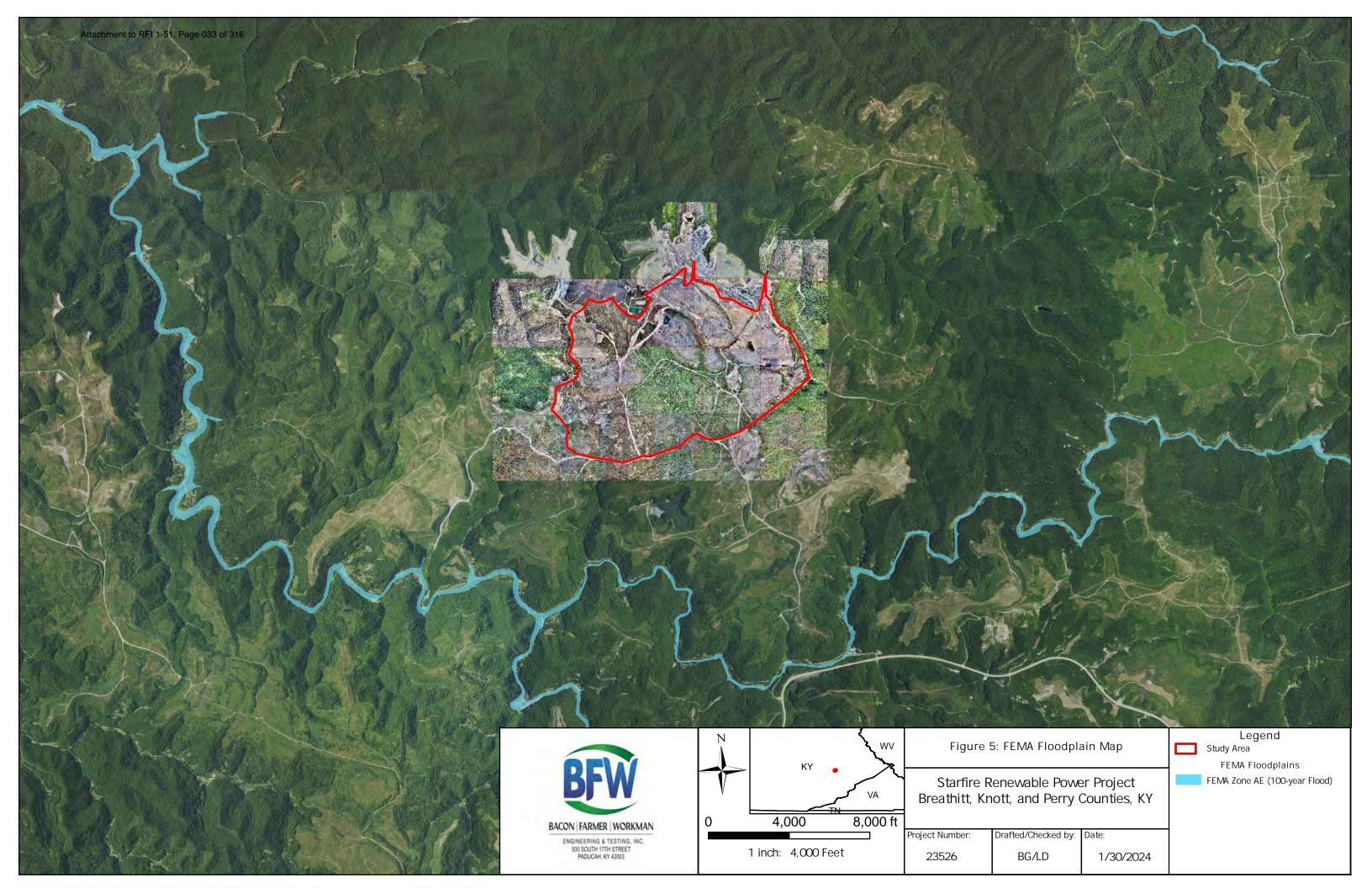


















ttachment to RFI 1-51, Page 037 of 316		
	Annondiy B	
	Appendix B	
	Tables	

Project No.: 23526

Table 1: Wetlands Within Study Area Starfire Renewable Power Project Breathitt, Knott, and Perry Counties, Kentucky

Feature Acrea		Habitat Type*	Anticipated
reature	Acreage		Status**
Wetland A	0.09	PEM	Non-Jurisdictional
Wetland B	0.17	PEM	Non-Jurisdictional
Wetland C	0.07	PEM	Non-Jurisdictional
Wetland D	0.42	PEM	Non-Jurisdictional
Wetland E			Non-Jurisdictional
Wetland F	+		Non-Jurisdictional
Wetland G	0.09 PEM		Non-Jurisdictional
Wetland H	1.18	PEM	Non-Jurisdictional
Wetland I	0.57	PEM	Non-Jurisdictional
Wetland J	0.06	PEM	Non-Jurisdictional
Wetland K	0.22	PEM	Non-Jurisdictional
Wetland L	0.09	PEM	Non-Jurisdictional
Wetland M	2.50	PEM	Non-Jurisdictional
Wetland N	0.07	PEM	Non-Jurisdictional
Wetland O	0.03	PEM	Non-Jurisdictional
Wetland P	0.13	PEM	Non-Jurisdictional
Wetland Q	0.13	PEM	Non-Jurisdictional
Wetland R	0.05	PEM	Non-Jurisdictional
Wetland S	0.18	PEM	Non-Jurisdictional
Wetland T	0.59	PEM	Non-Jurisdictional
Wetland U	0.07	PEM	Non-Jurisdictional
Wetland V	0.09	PEM	Non-Jurisdictional
Wetland W	0.06	PEM	Non-Jurisdictional
Wetland X	0.37	PEM	Non-Jurisdictional
Wetland Y	0.06	PEM	Non-Jurisdictional
Wetland Z	0.08	PEM	Non-Jurisdictional
Wetland AA	0.18	PEM	Non-Jurisdictional
Wetland AB	0.30	PEM	Non-Jurisdictional
Wetland AC	0.07	PEM	Non-Jurisdictional
Wetland AD	0.08	PEM	Non-Jurisdictional
Wetland AE	0.11	PEM	Non-Jurisdictional
Wetland AF	0.03	PEM	Non-Jurisdictional
Wetland AG	0.07	PEM	Non-Jurisdictional
Wetland AH	0.02	PEM	Non-Jurisdictional
Wetland Al	0.12	PEM	Non-Jurisdictional
Wetland AJ	0.05	PEM	Non-Jurisdictional
Wetland Total	8.77	-	-
Jurisdictional	0.00		
Wetland Total	0.00	-	-

^{*}Habitat classifications from Cowardin: PFO = palustrine forested,

PSS = palustrine scrub-shrub, PEM = palustrine emergent

^{*}Jurisdictional/Non-Jurisdictional determination is provisional and final designations will be assigned by the U.S. Army Corps of Engineers during their project review.

Table 2: Ponds Within Study Area Starfire Renewable Power Project Breathitt, Knott, and Perry Counties, Kentucky

Feature	Acreage	Habitat Type*	Anticipated Status**		
Pond 1	0.58	PUB	Non-Jurisdictional		
Pond 2	1.77	PUB	Non-Jurisdictional		
Pond Total	2.35				
Jurisdictional Pond Total	0.00				

^{*}Habitat classifications from Cowardin: PUB = palustrine unconsolidated bottom

^{*}Jurisdictional/Non-Jurisdictional determination is provisional and final designations will b assigned by the U.S. Army Corps of Engineers during their project review.

-51, Page 040 of 316
Appendix C
Wetland Determination Data Forms

Project No.: 23526

Attachment to RFI 1-51, Page 041 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Starfire Renewable Power Pro	ject	City/County: Perry Cou	ınty	Sampling Date: 11/06/2023		
Applicant/Owner: STMO bn, LI	LC		State: KY	Sampling Point: Wetland A		
Investigator(s): L Darnell, B Gibbons	Section, Township, Range:					
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, convex,	-	Slope (%): 0		
Subregion (LRR or MLRA): LRR N, MLRA 1			83.13280657	Datum:		
Soil Map Unit Name: FaB - Fairpoint soils, u		Long.	NWI classifica			
·						
Are climatic / hydrologic conditions on the sit				explain in Remarks.)		
Are Vegetation, Soil, or Hydro	logysignificantly dis	sturbed? Are "Normal C	Circumstances" present	? Yes X No		
Are Vegetation, Soil, or Hydro	logynaturally problem	ematic? (If needed, ex	plain any answers in Re	emarks.)		
SUMMARY OF FINDINGS – Attach	site map showing s	sampling point locati	ons, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area				
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No		
Wetland Hydrology Present?	Yes X No					
Survey conducted during the "Wet Season.' assessment.				g		
HYDROLOGY						
Wetland Hydrology Indicators:				(minimum of two required)		
Primary Indicators (minimum of one is requi		(D.4.4)	Surface Soil Cracks (B6)			
Surface Water (A1)	True Aquatic Plants		Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2)	Hydrogen Sulfide Od		Drainage Patterns (B10)			
Saturation (A3) Water Marks (B1)	Presence of Reduce	res on Living Roots (C3)	Moss Trim Lines (B16)			
Sediment Deposits (B2)		on in Tilled Soils (C6)	Dry-Season Water Table (C2) Crayfish Burrows (C8)			
Drift Deposits (B3)	Thin Muck Surface (Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Explain in Rei		Stunted or Stressed Plants (D1)			
Iron Deposits (B5)		,	Geomorphic Position (D2)			
Inundation Visible on Aerial Imagery (B	7)	Shallow Aquitard (D3)				
Water-Stained Leaves (B9)			Microtopographic	Relief (D4)		
Aquatic Fauna (B13)			X FAC-Neutral Test	t (D5)		
Field Observations:						
Surface Water Present? Yes	No X Depth (inch					
Water Table Present? Yes	No X Depth (inch					
Saturation Present? Yes	No X Depth (inch	es): Wetland	Hydrology Present?	Yes <u>X</u> No		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos	s, previous inspections), if a	/ailable:			
Remarks:						

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species
2				That Are OBL, FACW, or FAC:(A)
3				Total Number of Dominant
4				Species Across All Strata: 2 (B)
5				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
7		T-1-1 O		Prevalence Index worksheet:
FOO/ of total agreem	$\overline{}$	=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 20 x 1 = 20 FACW species 28 x 2 = 56
1				FAC species 13 x 3 = 39
2.				FACU species 0 x 4 = 0
3.				UPL species 0 x 5 = 0
4.				Column Totals: 61 (A) 115 (B)
5.				Prevalence Index = B/A = 1.89
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
8.				X 2 - Dominance Test is >50%
9.				X 3 - Prevalence Index is ≤3.0 ¹
· -		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:		of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Typha angustifolia	20	Yes	OBL	Indicators of hydric soil and wetland hydrology must be
2. Iva annua	10	No	FAC	present, unless disturbed or problematic.
3. Persicaria lapathifolia	20	Yes	FACW	Definitions of Four Vegetation Strata:
4. Symphyotrichum lanceolatum	3	No	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5. Rumex crispus	3	No	FAC	more in diameter at breast height (DBH), regardless of
6. Scirpus cyperinus	5	No	FACW	height.
7				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than or equal to 3.28 ft
9				(1 m) tall.
10. 11.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
···	61	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 3		of total cover:	13	height.
Woody Vine Stratum (Plot size: 30)		or total oover.		
1				
2.				
3.				
4.				
5.				Hadaankada
	:	=Total Cover		Hydrophytic Vegetation
50% of total cover:	20%	of total cover:		Present? Yes X No No
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			<u> </u>
(,			

Sampling Point:

Wetland A

Soll Sampling Point: Wetland A

	ription: (Describe t	to the de				ator or co	onfirm the absenc	e of indi	icators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Featur %	res Type ¹	Loc ²	Toyturo		Remarks
(inches)	Color (moist)						Texture		
0-10	2.5Y 4/2	90	10YR 3/4	10	<u> </u>	PL/M	Loamy/Clayey		Distinct redox concentrations
						·	•		
	oncentration, D=Depl	etion, RM	I=Reduced Matrix, N	/IS=Mas	ked San	d Grains.			Pore Lining, M=Matrix.
Hydric Soil I									for Problematic Hydric Soils
Histosol			Polyvalue Be					_	Muck (A10) (MLRA 147)
	ipedon (A2)		Thin Dark Su	,	, ,		· -		Prairie Redox (A16)
Black His			Loamy Muck			VILKA 130	o)	-	RA 147, 148)
	n Sulfide (A4)		Loamy Gleye X Depleted Ma					_	ont Floodplain Soils (F19)
	Layers (A5) ck (A10) (LRR N)		Redox Dark					-	RA 136, 147) arent Material (F21)
	Below Dark Surface	Δ(Δ11)	Depleted Da					_	side MLRA 127, 147, 148)
	rk Surface (A12)	, (, (, , ,)	Redox Depre					-	hallow Dark Surface (F22)
	ucky Mineral (S1)		Iron-Mangar			2) (LRR N		_	(Explain in Remarks)
	leyed Matrix (S4)		MLRA 136		(, (<u> </u>	_ ` ` `	, , , , , , , , , , , , , , , , , , , ,
	edox (S5)		Umbric Surfa	•	3) (MLR A	A 122, 136	3 In	dicators	of hydrophytic vegetation and
	Matrix (S6)		Piedmont Fl				-		d hydrology must be present,
Dark Sur	face (S7)		Red Parent I	Material	(F21) (N	ILRA 127	, 147, 148)	unless	disturbed or problematic.
Restrictive L	ayer (if observed):								
Type:									
Depth (ir	iches):						Hydric Soil Pre	sent?	Yes X No
Remarks:									

Attachment to RFI 1-51, Page 044 of 316

Project/Site: Starfire Renewable Power Project City/C	ounty: Talcum, KY / Breathitt County S	Sampling Date: 11/7/23			
Applicant/Owner:STMO bn, LLC	State: KY	Sampling Point: Upland A			
MD / UZ	on, Township, Range:				
Landform (hillslope, terrace, etc.): Depression Local reli		Slope (%): 0-2			
2. Leading (LDB and LDA) LRR N	-83 136181	Slope (%)			
Subregion (LRR or MLRA): LRR N Lat: 37.416179 Soil Map Unit Name: FbD—Fairpoint and Bethesda soils, 0 to 20 percentage.	Long:	. None			
Are climatic / hydrologic conditions on the site typical for this time of year? Y					
Are Vegetation, Soil, or Hydrology significantly disturb	ped? Are "Normal Circumstances" pre	esent? Yes 🗸 No			
Are Vegetation, Soil, or Hydrology naturally problems	atic? (If needed, explain any answers	in Remarks.)			
SUMMARY OF FINDINGS - Attach site map showing same	ipling point locations, transects, i	important features, etc.			
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes No _ Yes No _ Remarks:	Is the Sampled Area within a Wetland? Yes	. No <u>✓</u>			
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. Survey area in remnants of drainage basin. HYDROLOGY		n Normal" conditions			
Wetland Hydrology Indicators:	Secondary Indicato	urs (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)			
Surface Water (A1) True Aquatic Plants (tated Concave Surface (B8)			
High Water Table (A2) Hydrogen Sulfide Odd					
Saturation (A3) Oxidized Rhizosphere					
Water Marks (B1) Presence of Reduced		ater Table (C2)			
Sediment Deposits (B2) Recent Iron Reductio					
Drift Deposits (B3) Thin Muck Surface (C		ble on Aerial Imagery (C9)			
Algal Mat or Crust (B4) Other (Explain in Ren		essed Plants (D1)			
Iron Deposits (B5)	Geomorphic Po				
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)		Shallow Aquitard (D3) Microtopographic Relief (D4)			
Aquatic Fauna (B13)		FAC-Neutral Test (D5)			
Field Observations:		331 (23)			
Surface Water Present? Yes No ✓ Depth (inches):					
Water Table Present? Yes No ✓ Depth (inches):		_			
Saturation Present? Yes No / Depth (inches):		P Yes No ✓			
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:				
Damadia					
Remarks:					
Topography not conducive to wetland developmen	t.				

	Absolute	Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size: 30ft) 1. N/A		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A))
2				Total Number of Dominant Species Across All Strata: 1 (B))
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/	'B)
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
8					
15#		= Total Cov	er	OBL species $0 x 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 \times 2 = 0$	
1. <u>N/A</u>				FAC species $\frac{100}{2}$ $\times 3 = \frac{300}{2}$	
2				FACU species $\frac{0}{2}$ $x = 4$	
3				UPL species $0 x 5 = 0$	
4				Column Totals: 100 (A) 300 (E	3)
5				Prevalence Index = $B/A = 3.0$	
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	
10				4 - Morphological Adaptations ¹ (Provide supporti	ina
LL L O		= Total Cov	er	data in Remarks or on a separate sheet)	119
Herb Stratum (Plot size: 5ft) 1 Persicaria longiseta	100	V	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)	
		<u>Y</u>			
2				¹ Indicators of hydric soil and wetland hydrology must	
3				be present, unless disturbed or problematic.	
4				Definitions of Four Vegetation Strata:	
5				Tool Month advantage and office of 17.0 and	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) more in diameter at breast height (DBH), regardless of	
7				height.	
8				Sanling/Shrub Woody plants, evaluding vines less	_
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	5
10					
11				Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.	3S
12.				or size, and woody plants loss than 6.25 it tall.	
West-Mark Obstacles (District 30ft	100	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in height.	1
Woody Vine Stratum (Plot size: 30ft)					
1. <u>N/A</u>					
2			-		
3					
4				Hydrophytic	
5				Vegetation	
6				Present? Yes No	
		= Total Cov	er		
Remarks: (Include photo numbers here or on a separate	sheet.)				
Remnant FAC vegetation had develop	ed in the	survev	area.		
Hydrology is not supporting hydrophyti		•			
Trydrology to flot supporting frydropfryti	o vogota	dioii.			

SOIL

Profile Desc	ription: (Describe	to the depth	needed to docun	nent the i	ndicator o	or confirm	the abse	ence of indicato	ors.)	
Depth	Matrix			x Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textur		Remarks	
0-3	10yr 4/3	90					Sand	w/ grave	l inclusions	
							-			
	-						-			
¹ Type: C=Co	oncentration, D=Dep	oletion. RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ins.	² Location	n: PL=Pore Linin	ng. M=Matrix.	
Hydric Soil I			toddood matrix, me					ndicators for Pr		dric Soils ³ :
Histosol			Dark Surface	(S7)					A10) (MLRA 1 4	
	oipedon (A2)		Polyvalue Be		ce (S8) (M	I RΔ 147	148)		Redox (A16)	"'
Black His			Thin Dark Su		. , .		140) _	(MLRA 14		
	n Sulfide (A4)		Loamy Gleye			,,			oodplain Soils (F19)
	Layers (A5)		Depleted Mat		-/		_	(MLRA 13		,
	ck (A10) (LRR N)		Redox Dark S		6)				Material (TF2)	
	Below Dark Surfac	e (A11)	Depleted Dar						Dark Surface	(TF12)
Thick Da	ark Surface (A12)		Redox Depre	ssions (F8	3)		_	Other (Explai	in in Remarks)	
Sandy M	lucky Mineral (S1) (LRR N,	Iron-Mangan	ese Masse	es (F12) (L	.RR N,				
MLRA	147, 148)		MLRA 13	6)						
	leyed Matrix (S4)		Umbric Surfa					³ Indicators of hy		
	edox (S5)		Piedmont Flo	odplain S	oils (F19)	(MLRA 14	8)	wetland hydro	ology must be	present,
	Matrix (S6)							unless disturl	bed or problem	natic.
	ayer (if observed)	:								
Type: Ro			<u>—</u>							_
Depth (inc	ches): <u>3</u>						Hydric	Soil Present?	Yes	No <u> </u>
Remarks:										
Hydric so	oil has not de	veloned i	n the survey	area						
r ry arro oc	on had hot do	volopodi	ii alo calvoy	aroa.						

Attachment to RFI 1-51, Page 047 of 316

Project/Site: Starfire Renewable Power Project City/C	County: Talcum, KY / Breathitt County Sampling Date: 11/7/23
Applicant/Owner:STMO bn, LLC	State: KY Sampling Point: Wetland B
MD / UZ	on, Township, Range:
Landform (hillslope, terrace, etc.): Depression Local reli	
Subregion (LRR or MLRA): LRR N Lat: 37.409903	-83.134169 Detum: NAD83
Soil Map Unit Name: FbE—Fairpoint and Bethesda soils, 2 to 70 percei	nt slopes, benched, stony, Navy classification. None
•	
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 problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing same	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Survey conducted during the "Wet Season" USAC	Is the Sampled Area within a Wetland? Yes No OF APT data shows "Drier than Normal" conditions
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection	
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 (
High Water Table (A2) Hydrogen Sulfide Ode Saturation (A3) Oxidized Rhizosphere	
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reductio	
Drift Deposits (B3) Thin Muck Surface (C	
Algal Mat or Crust (B4) Other (Explain in Ren	marks) 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): 0	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
C9: See aerial maps	
Remarks:	
No continuous downstream or upstream connectio	n.
Isolated to depressional feature.	

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 \times 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

Attachment to RFI 1-51, Page 049 of 316

SOIL

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

Depth Matrix Redox Features (inches) Color (moist) % Type¹ Loc² Texture Remarks

Depth	Matrix		Redo	x Features	1 . 2	_	
(inches)	Color (moist)		Color (moist)	<u>% Tyr</u>	pe ¹ Loc ²	Texture	Remarks
0-2	10yr 4/4	100				Clay	
2-8	10yr 5/1	100				Clay	
				·		-	
	· ·						
	- ·						
	-						
						-	
	Concentration, D=D	epletion, RM=I	Reduced Matrix, M	S=Masked San	d Grains.		PL=Pore Lining, M=Matrix.
-	Indicators:						cators for Problematic Hydric Soils ³ :
Histoso			Dark Surface				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)			elow Surface (S		, 148)	Coast Prairie Redox (A16)
	listic (A3)			urface (S9) (ML	RA 147, 148)		(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye	ed Matrix (F2)		_	Piedmont Floodplain Soils (F19)
	ed Layers (A5) uck (A10) (LRR N)		Redox Dark				(MLRA 136, 147) Red Parent Material (TF2)
	ed Below Dark Surfa			rk Surface (F7)			Very Shallow Dark Surface (TF12)
	ark Surface (A12)	,	Redox Depre				Other (Explain in Remarks)
	Mucky Mineral (S1)	(LRR N,		ese Masses (F	12) (LRR N,		,
	A 147, 148)		MLRA 13				
Sandy	Gleyed Matrix (S4)		Umbric Surfa	ace (F13) (MLR	A 136, 122)	³ lr	ndicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo	oodplain Soils (F	=19) (MLRA 1 4	48)	wetland hydrology must be present,
	d Matrix (S6)					_	unless disturbed or problematic.
	Layer (if observed	d):					
Type: R							
Depth (ir	nches): 8					Hydric So	oil Present? Yes <u>√</u> No
Remarks:							
Hydric s	oil with deple	eted matri	x observed.				
	-						

Attachment to RFI 1-51, Page 050 of 316

Project/Site: Starfire Renewable Power Project City/C	County: Talcum, KY / Breathitt County Sampling Date: 11/7/23
Applicant/Owner:STMO bn, LLC	State: KY Sampling Point: Upland B
Investigator(s): MB / JK Section	
Landform (hillslope, terrace, etc.): Terrace Local rel	
Subregion (LRR or MLRA): LRR N Lat: 37.409833	Long: Datum:
Soil Map Unit Name: FbE—Fairpoint and Bethesda soils, 2 to 70 perce	
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly distur	bed? Are "Normal Circumstances" present? Yes _ ✓ No
Are Vegetation, Soil, or Hydrology naturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing san	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes No _ Yes No _ Remarks:	Is the Sampled Area within a Wetland? Yes No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment Upland survey point for Wetland B.	CE APT data shows "Drier than Normal" conditions .
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 (
High Water Table (A2) Hydrogen Sulfide Od	
Saturation (A3) Oxidized Rhizospher	
Water Marks (B1) Presence of Reduced Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (0	
Algal Mat or Crust (B4) Other (Explain in Rer	
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):	Wetland Hydrology Present? Yes No✓
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	
Topography not conducive to wetland developmen	ıt.
Topograpiny not community to memoria acrosspinion	

	Absolute	Dominant		Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30ft) 1. N/A		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A	A)
2				Total Number of Dominant Species Across All Strata: 1 (E	3)
4				Percent of Dominant Species	
5					λ/B)
6					
7				Prevalence Index worksheet:	
8				Total % Cover of: Multiply by:	
459		= Total Cov	er	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $\frac{0}{2}$ $\times 2 = \frac{0}{2}$	
1. <u>N/A</u>				FAC species $\frac{0}{100}$ $\times 3 = \frac{0}{100}$	
2				FACU species $\frac{100}{2}$ $x 4 = \frac{400}{2}$	
3				UPL species $0 \times 5 = 0$	
4				Column Totals: 100 (A) 400	(B)
5				Dravelance lades - B/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%	
10				3 - Prevalence Index is ≤3.0 ¹	
		= Total Cov		4 - Morphological Adaptations ¹ (Provide suppor data in Remarks or on a separate sheet)	rting
Herb Stratum (Plot size: 5ft)				Problematic Hydrophytic Vegetation (Explain)	
1. Lespedeza cuneata	100	<u>Y</u>	FACU	Problematic Hydrophytic Vegetation (Explain)	
2.				1 - de sector de la constant de la c	
3				¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.	st
4				Definitions of Four Vegetation Strata:	
5				Definitions of Four Vegetation Strata.	
6.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	
7.				more in diameter at breast height (DBH), regardless height.	S OT
8.					
9.				Sapling/Shrub – Woody plants, excluding vines, let than 3 in. DBH and greater than 3.28 ft (1 m) tall.	SS
10.				than 3 in. DBH and greater than 3.20 it (1 iii) tail.	
11				Herb – All herbaceous (non-woody) plants, regardle	ess
12.				of size, and woody plants less than 3.28 ft tall.	
12.	100	= Total Cov		Woody vine - All woody vines greater than 3.28 ft i	in
Woody Vine Stratum (Plot size: 30ft)		= 10tai 00V	J1	height.	
1. <u>N/A</u>					
2					
3.					
4					
5.			<u> </u>	Hydrophytic Vegetation	
6.				Present? Yes No	
<u> </u>		= Total Cov			
Remarks: (Include photo numbers here or on a separate	· · · · · · · · · · · · · · · · · · ·	= 10tal 00V	J1	<u></u>	
Hydrophytic vegetation has not develo	ped in th	e surve	/ area.		

Sampling Point: Upland B

SOIL

Profile Desc	ription: (Describe	to the dept	h needed to docur	nent the in	dicator or cor	nfirm the a	bsence	of indicato	ors.)	
Depth	Matrix			x Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹ Loc	Tex	xture		Remarks	3
0-8	10yr 4/2	95				Sand	ly clay	w/ grave	l inclusions	3
										_
	-									
										_
										
	-									
1Tymor C C	noontration D Dor	olotion DM	Dadwaad Matrix MG	- Maakad	Cond Croins	21 000	tion. DI	Doro Linin	a M Matrix	,
Hydric Soil	oncentration, D=Dep	pletion, RIVI=	Reduced Matrix, Mi	5=IVIasked	Sand Grains.	Loca			ng, M=Matrix	Hydric Soils ³ :
-			DI- 0((07)						-
Histosol			Dark Surface		(00) (11) 54	4.4= 4.40\		,	A10) (MLRA	
	pipedon (A2)				e (S8) (MLRA		C		Redox (A16	5)
Black Hi					(MLRA 147, 14	18)	_	(MLRA 14		(540)
	n Sulfide (A4)		Loamy Gleye		2)		P		odplain Soil	s (F19)
	Layers (A5)		Depleted Ma		• • •		_	(MLRA 13		
	ick (A10) (LRR N) d Below Dark Surfac	o (A11)	Redox Dark						Material (TF2	,
	ark Surface (A12)	e (ATT)	Redox Depre						Dark Surfac in in Remark	
	lucky Mineral (S1) (I DD N			<i>)</i> s (F12) (LRR N			лпет (Ехріа	III III Kelliaik	(5)
	147, 148)	LINI II,	MLRA 13		5 (F12) (LKK I	۹,				
	sleyed Matrix (S4)		Umbric Surfa	•	M DA 136 123) \	3Ind	licators of h	udrophytic ve	egetation and
	edox (S5)				ils (F19) (MLR				ology must b	-
	Matrix (S6)		1 1001110111110	ouplain ou	113 (1 13) (MEIC	A 140)			bed or proble	-
	_ayer (if observed)							inicoo diotan	bod of proble	cinatio.
Type: Ro		•								
									.,	/
Depth (inc	ches): <u> </u>					Hyd	ric Soil	Present?	Yes	No/
Remarks:										
Hydric so	oil has not de	veloped	in the survey	area.						
İ										

Attachment to RFI 1-51, Page 053 of 316

Project/Site: Starfire Renewable Power Project City/Co	bunty: Talcum, KY / Breathitt County Sampling Date: 11/7/23
Applicant/Owner:STMO bn, LLC	State: KY Sampling Point: Wetland C
MD / II/	n, Township, Range:
Landform (hillslope, terrace, etc.): Depression Local relic	
Subregion (LRR or MLRA). LRR N Lat. 37.408461	Long: -83.132965 Datum: NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.408461 Soil Map Unit Name: FbD—Fairpoint and Bethesda soils, 0 to 20 percentage of the second soils.	ent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Ye	
Are Vegetation, Soil, or Hydrology significantly disturb	ped? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problema	
SUMMARY OF FINDINGS - Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Survey conducted during the "Wet Second" LISAC	Is the Sampled Area within a Wetland? Yes No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection	
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 Plants (Bayer and Deposits (B2) Presence of Reduction and Deposits (B3) Thin Muck Surface (Cayer and Deposits (B4) Other (Explain in Remark and Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations:	or (C1)
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 photos, prev	vious inspections), if available:
Remarks: No continuous downstream or upstream connection Isolated to depressional feature.	ղ.

20ft	Absolute	Dominant		Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>) 1. <u>N/A</u>		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A	١)
2				Total Number of Dominant Species Across All Strata: 1 (B	3)
4. 5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A	\/B)
6					
7				Prevalence Index worksheet:	
8				Total % Cover of: Multiply by:	
		= Total Cov		OBL species 100 x 1 = 100	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species 10 $x 2 = 20$	
1. <u>N/A</u>				FAC species $0 x 3 = 0$	
2				FACU species $0 x 4 = 0$	
3				UPL species $0 x 5 = 0$	
4				Column Totals: 110 (A) 120 ((B)
5.				11	
6.				Prevalence Index = B/A = 1.1	
7.				Hydrophytic Vegetation Indicators:	
8.				1 - Rapid Test for Hydrophytic Vegetation	
9.				2 - Dominance Test is >50%	
10				3 - Prevalence Index is ≤3.0¹	
····		= Total Cov		4 - Morphological Adaptations ¹ (Provide support	ting
Herb Stratum (Plot size: 5ft)		_ rotal 00		data in Remarks or on a separate sheet)	
1. Typha angustifolia	100	Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Scirpus cyperinus	10	N	FACW	1	
3.				¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.	it
4.				-	
5.				Definitions of Four Vegetation Strata:	
6.				Tree - Woody plants, excluding vines, 3 in. (7.6 cm)	
				more in diameter at breast height (DBH), regardless	of
7				height.	
8				Sapling/Shrub - Woody plants, excluding vines, les	SS
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Herb - All herbaceous (non-woody) plants, regardle	ess
				of size, and woody plants less than 3.28 ft tall.	
12	110			Woody vine – All woody vines greater than 3.28 ft in	n
Woody Vine Stratum (Plot size: 30ft)	110	= Total Cov	/er	height.	
1. N/A					
2.					
3					
4				Hydrophytic	
5				Vegetation Present? Yes No	
6				rieseiit: iesivo	
		= Total Cov	/er		
Remarks: (Include photo numbers here or on a separate	sheet.)				
Hydrophytic vegetation has developed	in surve	y area.			

Profile Des	cription: (Describe	to the dep	h needed to docum	nent the indicat	or or confirm	the absence of	indicators.)
Depth	Matrix			x Features			,
(inches)	Color (moist)	%	Color (moist)	% Type	e ¹ Loc ²	Texture	Remarks
0-2	10yr 4/4	100	Color (moloc)			Clay	Romano
2-8	10yr 5/1	100				Clay	
Type: C=0	 Concentration, D=Dep	letion. RM=	Reduced Matrix. MS	S=Masked Sand	Grains.		ore Lining, M=Matrix.
	Indicators:		Troubout manny me		0.0		rs for Problematic Hydric Soils ³ :
Hydrog Stratific 2 cm N Deplete Thick E Sandy MLR Sandy Sandy Sandy	Histic (A3) Hen Sulfide (A4) Hed Layers (A5) Huck (A10) (LRR N) Hed Below Dark Surface Park Surface (A12) Mucky Mineral (S1) (Interpretation of the Matrix (S4) Medox (S5) Hedox (S5) Hedox (S5)		Loamy Gleyer Depleted Mat Redox Dark S Depleted Dari Redox Deprei Iron-Mangane MLRA 136 Umbric Surface	rix (F3) Surface (F6) k Surface (F7) ssions (F8) ese Masses (F12	2) (LRR N, 136, 122)	— Pied (N — Red — Very — Othe 3Indicar wetla	MLRA 147, 148) mont Floodplain Soils (F19) MLRA 136, 147) Parent Material (TF2) Shallow Dark Surface (TF12) er (Explain in Remarks) tors of hydrophytic vegetation and and hydrology must be present,
	d Matrix (S6)					unie	ss disturbed or problematic.
	Layer (if observed)	:					
Type: R	OCK						
Depth (ii	nches): <u></u> 8					Hydric Soil Pr	esent? Yes <u>√</u> No
Remarks:	, -						

Attachment to RFI 1-51, Page 056 of 316

Project/Site: Starfire Renewable Power Project City/0	County: Talcum, KY / Breathitt County Sampling Date: 11/7/23
Applicant/Owner:STMO bn, LLC	State: KY Sampling Point: Upland C
Investigator(s): MB / JK Section	
Landform (hillslope, terrace, etc.): Terrace Local re	
Local re	-83 132999 - NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.408635	Long: Datum: Datum: None
Soil Map Unit Name: FbD—Fairpoint and Bethesda soils, 0 to 20 per	
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly distu	rbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally problem	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sar	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No _ ✓	Is the Sampled Area within a Wetland? Yes No
and "Incipient drought" for the date of assessment Upland survey point for Wetland C.	CE APT data shows "Drier than Normal" conditions it.
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 High Water Table (A2) Hydrogen Sulfide Od	
Saturation (A3) Oxidized Rhizospher	
Water Marks (B1) Presence of Reduce	
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (
Algal Mat or Crust (B4) Other (Explain in Re	
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)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pro	evious inspections), if available:
Remarks:	
Topography not conducive to wetland developmen	nt.

0.0%	Absolute			Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	<u>Status</u>	Number of Dominant Species
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				
3.				Total Number of Dominant Species Across All Strata: 1 (B)
				Species Across All Strata: 1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0 (A/B)
6				
7				Prevalence Index worksheet:
				Total % Cover of: Multiply by:
8				OBL species $0 x 1 = 0$
Capling/Charle Stratum (Blat sing, 15ff		= Total Co	ver	FACW species $0 \times 2 = 0$
Sapling/Shrub Stratum (Plot size: 15ft)				
1. N/A				rac species x s =
2				FACU species 110 x 4 = 440
3				UPL species $0 \times 5 = 0$
				Column Totals: 110 (A) 440 (B)
4				(b)
5				Prevalence Index = $B/A = 4.0$
6				Hydrophytic Vegetation Indicators:
7				
8				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
10				4 - Morphological Adaptations ¹ (Provide supporting
Eff		= Total Co	ver	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5ft)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Lespedeza cuneata	100	<u>Y</u>	FACU	1 Toblematic Trydrophytic Vegetation (Explain)
2. Miscanthus sinensis	10	N	FACU	
3.				Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tara Mandaglada walada a (7.0 as)
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8.				g
				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				of size, and woody plants loss than 6.25 it tail.
<u> </u>	110	Total Co		Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30ft)		= Total Co	ver	height.
4 N/Δ				
2				
3				
4				
				Hydrophytic
5				Vegetation Present? Yes No _✓
6				Present? Yes No
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate	sheet.)			•
Hydrophytic vegetation has not develo	pea in in	e surve	ey area.	

Sampling Point: Upland C

(inches)	Matrix Color (moist)	%	Color (moist)	x Features % Type ¹	Loc ²	Texture	Remarks	
-8	10yr 4/2	95	Color (moist)		LUC	Sandy clay	w/ gravel inclusions	
	10y1 4/2				· ——	Odridy Clay	w/ graver inclusions	
					· ——			
							-	
		alatian DM	Dadwaad Matrix MC	Maskad Cand C	-:	21	Dans Lining M. Matrix	
	oncentration, D=Dep Indicators:	pletion, Rivi=	Reduced Matrix, MS	=Masked Sand G	ains.		=Pore Lining, M=Matrix. ators for Problematic Hydric	Soils ³ :
			David Overface	(07)			•	SUIIS .
_ Histosol			Dark Surface		W DA 447	· · · · · · · · · · · · · · · · · · ·	cm Muck (A10) (MLRA 147)	
	pipedon (A2)			low Surface (S8) (I		148) C	oast Prairie Redox (A16)	
_ Black His				rface (S9) (MLRA	147, 148)	D	(MLRA 147, 148)	
	n Sulfide (A4) d Layers (A5)		Loamy Gleye Depleted Mat			_ P	iedmont Floodplain Soils (F19) (MLRA 136, 147)	
	ick (A10) (LRR N)		Redox Dark S			D	ed Parent Material (TF2)	
	d Below Dark Surfac	re (A11)		k Surface (F7)			ery Shallow Dark Surface (TF1	2)
	ark Surface (A12)	50 (7111)	Redox Depre	, ,			ther (Explain in Remarks)	_,
	lucky Mineral (S1) (LRR N.		ese Masses (F12)	LRR N.		and (Explain in Romano)	
	147, 148)		MLRA 136		(=::::,			
	Gleyed Matrix (S4)			ce (F13) (MLRA 1 :	36, 122)	³ Ind	icators of hydrophytic vegetation	on and
	ledox (S5)			odplain Soils (F19)			etland hydrology must be pres	
	Matrix (S6)		_		(nless disturbed or problematic.	
	_ayer (if observed)):					<u> </u>	
Type: Roo	CK					Hydric Soil	Present? Yes No	, /
Type: Roo						Tiyane don	116361111 163 146	
Depth (inc	ches): <u>8</u>	veloned	in the survey	area				
Depth (inc	ches): <u>8</u>	veloped	in the survey	area.				
Depth (inc	ches): <u>8</u>	veloped	in the survey	area.				
Depth (inc	ches): <u>8</u>	veloped	in the survey	area.				
Depth (inc	ches): <u>8</u>	veloped	in the survey	area.				
Depth (incomarks:	ches): <u>8</u>	veloped	in the survey	area.				
Depth (incomarks:	ches): <u>8</u>	veloped	in the survey	area.				
Depth (inc	ches): <u>8</u>	veloped	in the survey	area.				

Attachment to RFI 1-51, Page 059 of 316

Project/Site:Starfire Renewable Power Project City/C	ounty: Talcum, KY / Perry County	Sampling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY	Sampling Point: Wetland D
MD / II/	on, Township, Range:	
Landform (hillslope, terrace, etc.): Depression Local reli		Slone (%): 0-2
Subregion (LRR or MLRA): LRR N Lat: 37.409190	-83.131223	Slope (70)
Soil Map Unit Name: FbD—Fairpoint and Bethesda soils, 0 to 20 percentage of the soil of th	cent slopes	Datum: None
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 problems	itic? (If needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sam	pling point locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks:		No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection		an Normal" conditions
HYDROLOGY		
Wetland Hydrology Indicators:		ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil	
Surface Water (A1) True Aquatic Plants (High Water Table (A2) Hydrogen Sulfide Ode		egetated Concave Surface (B8)
✓ Saturation (A3) — Nydrogen Sunice Coll Oxidized Rhizosphere		
Water Marks (B1) Presence of Reduced		Water Table (C2)
Sediment Deposits (B2) Recent Iron Reductio		
Drift Deposits (B3) Thin Muck Surface (C	(7) Saturation V	/isible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Ren		Stressed Plants (D1)
Iron Deposits (B5)		Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aqu	
Water-Stained Leaves (B9) Aquatic Fauna (B13)	— Microtopogr ✓ FAC-Neutra	aphic Relief (D4)
Field Observations:		i rest (bo)
Surface Water Present? Yes No ✓ Depth (inches):		
Water Table Present? Yes No ✓ Depth (inches):		_
Saturation Present? Yes No Depth (inches):		nt? Yes <u>√</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections) if available:	
Describe Necorded Data (Stream gauge, monitoring well, aemai priotos, pre	vious irispections), ii available.	
Remarks:		
No continuous downstream or upstream connectio	n	
Isolated to depressional feature.	•••	

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 \times 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

Wetland D SOIL Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Texture (inches) Color (moist) 0-2 10yr 4/4 100 Clay 2-12 10yr 5/1 100 Clay ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: ___ 2 cm Muck (A10) (MLRA 147) ___ Histosol (A1) Dark Surface (S7) ___ Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) ___ Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) ___ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) ✓ Depleted Matrix (F3) ___ Stratified Layers (A5) (MLRA 136, 147) __ 2 cm Muck (A10) (LRR N) __ Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) _ Other (Explain in Remarks) ___ Sandy Mucky Mineral (S1) (LRR N, ___ Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) 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, unless disturbed or problematic. Stripped Matrix (S6) Restrictive Layer (if observed): Hydric Soil Present? Yes ✓ No Depth (inches): Remarks: Hydric soil with depleted matrix observed.

Attachment to RFI 1-51, Page 062 of 316

Project/Site:Starfire Renewable Power Project City/County:	Talcum, KY / Perry County	Sampling Date: 11/6/23		
Project/Site: <u>Starfire Renewable Power Project</u> City/County: _Applicant/Owner: <u>STMO bn, LLC</u>	State: KY	Sampling Point: Upland D		
Investigator(s): MB / JK Section, Town				
Landform (hillslope, terrace, etc.): Terrace Local relief (cond		Slana (%/): 0		
Landionn (nilisiope, terrace, etc.)	ave, convex, none)	Slope (%)		
Subregion (LRR or MLRA): LRR N Lat: 37.409305	Long: OO. 10 1000	Datum: None		
Soil Map Unit Name: FbD—Fairpoint and Bethesda soils, 0 to 20 percent slo				
Are climatic / hydrologic conditions on the site typical for this time of year? Yes				
Are Vegetation, Soil, or Hydrology significantly disturbed?	Are "Normal Circumstances" p	oresent? Yes <u></u> ✓ No		
Are Vegetation, Soil, or Hydrology naturally problematic?	(If needed, explain any answe	ers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map showing sampling	point locations, transects	s, important features, etc.		
Lludria Cail Draggard	Sampled Area a Wetland? Yes	No✓		
Survey conducted during the "Wet Season". USACE AP and "Incipient drought" for the date of assessment. Upland survey point for Wetland D. HYDROLOGY	T data shows "Drier th	an Normal" conditions		
	Soondon, Indian	atora (minimum of two required)		
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		ators (minimum of two required) Cracks (B6)		
		Surface Soil Cracks (B6)Sparsely Vegetated Concave Surface (B8)		
Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1)		Sparsely vegetated Concave Surface (B6) Drainage Patterns (B10)		
Saturation (A3) Oxidized Rhizospheres on Liv				
Water Marks (B1) Presence of Reduced Iron (C		Water Table (C2)		
Sediment Deposits (B2) Recent Iron Reduction in Tille				
Drift Deposits (B3) Thin Muck Surface (C7)		isible on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or S	tressed Plants (D1)		
Iron Deposits (B5)		Position (D2)		
Inundation Visible on Aerial Imagery (B7)	Shallow Aqu			
Water-Stained Leaves (B9)	Microtopogra			
Aquatic Fauna (B13)	FAC-Neutral	Test (D5)		
Field Observations:				
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):				
	— Wastanad Handrada Bosana	N. ✓		
Saturation Present? Yes No _ ✓ Depth (inches): (includes capillary fringe)	Wetland Hydrology Preser	nt? Yes No		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous in	spections), if available:			
Remarks:				
Topography not conducive to wetland development.				

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 1 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0
Total Number of Dominant Species Across All Strata: 1 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0
Species Across All Strata: 1 (B) Percent of Dominant Species 0 (A/B) That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
Species Across All Strata: 1 (B) Percent of Dominant Species 0 (A/B) That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
Percent of Dominant Species 0 (A/B) That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
Prevalence Index worksheet:
Total % Cover of: Multiply by: OBL species 0 x 1 = 0
Total % Cover of: Multiply by: OBL species 0 x 1 = 0
OBL species $0 \times 1 = 0$
FACW species 0 $y 2 = 0$
FAC species $0 \times 3 = 0$
FACU species 100 $x 4 = 400$
UPL species $0 \times 5 = 0$
Column Totals: 100 (A) 400 (B)
Coldinii Totals (A) (B)
Prevalence Index = $B/A = 4.0$
Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is >50%
3 - Prevalence Index is ≤3.0 ¹
4 - Morphological Adaptations ¹ (Provide supporting
data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation ¹ (Explain)
¹ Indicators of hydric soil and wetland hydrology must
be present, unless disturbed or problematic.
Definitions of Four Vegetation Strata:
Tree Meady plants avaluding visco 2 in (7 Com) on
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 3.28 ft (1 m) tall.
than 3 in. DBH and greater than 3.26 it (1 iii) tail.
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.
Herdre wheet a
Hydrophytic Vegetation
Present? Yes No
١

Sampling Point: Upland D

SOIL

Profile Desc	ription: (Describe	to the depth	needed to docun	ent the inc	dicator or o	onfirm	the abs	ence of indicat	ors.)	
Depth	Matrix			(Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹ L	oc ²	Textu		Remarks	
0-8	10yr 4/1	100					Sandy	clay		
		- <u> </u>								
										
		·								
							-			
							-			
	-	<u> </u>								
1 _{Tymax} C. C.	naantration D Dan	lation DM C	laduaged Matrix MC	Mooked C	Croine		2l acatio	n. Di Doro Lini	na M Motrix	_
Hydric Soil	oncentration, D=Dep	ietion, Rivi=F	teduced Matrix, MS	=Masked S	sand Grains	i		n: PL=Pore Lini Indicators for P		udrio Soilo ³ :
-				(0-)						
Histosol			Dark Surface		(00) (55)				A10) (MLRA	
	pipedon (A2)		Polyvalue Be				148)		e Redox (A16)	
Black Hi			Thin Dark Su	. , .		148)		(MLRA 14		(=)
	n Sulfide (A4)		Loamy Gleye		2)		-		oodplain Soils	(F19)
	Layers (A5)		Depleted Mat					(MLRA 1		
	ck (A10) (LRR N)	~ (^44)	Redox Dark S		•		-		Material (TF2)	
	Below Dark Surfac	e (ATT)	Depleted Dar				-		v Dark Surfac	
	ark Surface (A12)	DD N	Redox Depre			. NI	-	Other (Expla	ain in Remarks	5)
	lucky Mineral (S1) (I	LKK N,	Iron-Mangane		(F12) (LRF	ΧN,				
	147, 148) Eleyed Matrix (S4)		MLRA 130 Umbric Surfa	•	II DA 126 1	22)		³ Indicators of h	udrophytic vo	notation and
	edox (S5)		Piedmont Flo				0)		rology must be	
			Pleamont Flo	oupiain Soi	IS (F 19) (IVIL	-KA 140	0)			-
	Matrix (S6) ayer (if observed):	,					1	uniess distu	rbed or proble	mauc.
Type: Ro										
			<u> </u>							
Depth (inc	ches): 6						Hydrid	c Soil Present?	Yes	_ No <u></u>
Remarks:										
Hydric so	oil has not dev	eloped i	n the survey	area.						
-		·	•							

Attachment to RFI 1-51, Page 065 of 316

Project/Site:Starfire Renewable Power Project City	//County: Talcum, KY / Perry (County Sampling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> City Applicant/Owner: <u>STMO bn, LLC</u>	Stat	e: KY Sampling Point: Wetland E
MD / II/	ction, Township, Range:	
Landform (hillslope, terrace, etc.): Toe of slope Local i		
Subregion (LRR or MLRA): LRR N Lat: 37.406565	-83.1304	54 NAD83
Subregion (LRR or MLRA): Lat: Lat: Lat:	Long:	Datum: 15 15 None
Soil Map Unit Name: FaB—Fairpoint soils, undulating		
Are climatic / hydrologic conditions on the site typical for this time of year?		
Are Vegetation, Soil, or Hydrology significantly dist	:urbed? Are "Normal Circui	mstances" present? Yes <u>▼</u> No
Are Vegetation, Soil, or Hydrology naturally proble	matic? (If needed, explain	any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, t	ransects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes		Yes No
Survey conducted during the "Wet Season". USA and "Incipient drought" for the date of assessmer No continuous downstream or upstream connect	nt.	Drier than Normal" conditions
HYDROLOGY		
Wetland Hydrology Indicators:		ndary 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		Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide (A2) Saturation (A3) Oxidized Rhizosph	5 . (66)	Orainage Patterns (B10) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduc		Ory-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduc		Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface		Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in R	temarks) S	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) FAC-Neutral Test (D5)
Aquatic Fauna (B13) Field Observations:	<u> </u>	AC-Neutral Test (D3)
Surface Water Present? Yes No Depth (inches):		
Water Table Present? Yes No Depth (inches):		
Saturation Present? Yes _ / No Depth (inches): 0	Wetland Hydrol	ogy Present? Yes No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p C9: See aerial maps	revious inspections), if available:	
Remarks:		
	•	
No continuous downstream or upstream connect	ion.	
Isolated to depressional feature.		

Sampling Point: Wetland E

0.0%	Absolute			Dominance Test worksheet:	\Box
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				Prevalence Index worksheet:	\dashv
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species 100 x 1 = 100	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
				UPL species $0 \times 5 = 0$	
3				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					\dashv
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supportin	g
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	Ĭ
1 Typha angustifolia	100	V	OBL	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.				Definitions of Four Vegetation Strata:	
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) o	r
6				more in diameter at breast height (DBH), regardless of	i
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, less	
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	٠
12.				of size, and woody plants less than 3.26 it tall.	
12.	100	= Total Cove		Woody vine – All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					\dashv
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	· · · · · · · · · · · · · · · · · · ·		-		-
Hydrophytic vegetation has developed	in surve	y area.			

Attachment to RFI 1-51, Page 067 of 316 Wetland E SOIL Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Color (moist) Texture (inches) 95 w/ gravel inclusions 0-10 10yr 5/1 Silty clay ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: ___ 2 cm Muck (A10) (MLRA 147) ___ Histosol (A1) Dark Surface (S7) ___ Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) ___ Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) ___ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) ✓ Depleted Matrix (F3) ___ Stratified Layers (A5) (MLRA 136, 147) __ 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) _ Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, ___ Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) 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, unless disturbed or problematic. Stripped Matrix (S6) Restrictive Layer (if observed): Type: Rock Depth (inches): 10 Hydric Soil Present? Yes Remarks: Hydric soil with depleted matrix observed.

Attachment to RFI 1-51, Page 068 of 316

Project/Site:Starfire Renewable Power Project	City/County: Talcu	ım, KY / Perry County	Sampling Date: 11/6/23		
Project/Site: Starfire Renewable Power Project Applicant/Owner: STMO bn, LLC		State: KY	Sampling Point: Upland E		
Investigator(s): MB / JK			capg : c		
Landform (hillslope, terrace, etc.): Terrace			Slana (%): 0		
Landrotti (fillisiope, terrace, etc.)	Jai reliei (concave, t	83 130459	Slope (%) NAD83		
Subregion (LRR or MLRA): LRR N Lat: 37.406697		Long:	Datum: 14/1200		
Soil Map Unit Name: FaB—Fairpoint soils, undulating					
Are climatic / hydrologic conditions on the site typical for this time of year					
Are Vegetation, Soil, or Hydrology significantly	disturbed? A	are "Normal Circumstances	" present? Yes <u>√</u> No		
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (I	f needed, explain any ansv	vers in Remarks.)		
SUMMARY OF FINDINGS - Attach site map showing	sampling poir	nt locations, transec	ts, important features, etc.		
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes No _ Yes No _ Remarks:	Is the Samp within a We		No <u> </u>		
Survey conducted during the "Wet Season". US and "Incipient drought" for the date of assessm Upland survey point for Wetland E.		ata shows "Drier t	han Normal" conditions		
HYDROLOGY					
Wetland Hydrology Indicators:			cators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that apply)		Surface So			
Surface Water (A1) True Aquatic Pl			Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2) — Hydrogen Sulfice — Cylidized Philosomers — Cylidized Philosomers — Hydrogen Sulfice — Hydrogen Su			Patterns (B10)		
Saturation (A3) Oxidized Rhizos Water Marks (B1) Presence of Re			Lines (B16) n Water Table (C2)		
Sediment Deposits (B2) Recent Iron Iron Iron Iron Iron Iron Iron Iron			urrows (C8)		
Drift Deposits (B3) Thin Muck Surfa			Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Other (Explain i			Stressed Plants (D1)		
Iron Deposits (B5)	,		ic Position (D2)		
Inundation Visible on Aerial Imagery (B7)			quitard (D3)		
Water-Stained Leaves (B9)		Microtopographic Relief (D4)			
Aquatic Fauna (B13)		FAC-Neutr	al Test (D5)		
Field Observations:					
Surface Water Present? Yes No Depth (inches)	ı:				
Water Table Present? Yes No ✓ Depth (inches)	ı:				
Saturation Present? Yes No Depth (inches)	r:	Wetland Hydrology Pres	ent? Yes No		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	s. previous inspecti	ons), if available:			
33.,	.,,				
Remarks:					
Topography not conducive to wetland develop	ment				
Topography not contactive to wettand develop	none.				

000	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A	١)
2				Total Novel and Charles	
3				Total Number of Dominant Species Across All Strata: 2 (B	8)
				Opecies Across All Ottata.	"
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0 (A	/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Co	ver	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2				FACU species 100 x 4 = 400	
3.				UPL species $0 x 5 = 0$	
				Column Totals: 100 (A) 400 ('B)
4				Column rotals (rt) ((,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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	
10					tin a
		= Total Co	ver	4 - Morphological Adaptations ¹ (Provide suppor data in Remarks or on a separate sheet)	ung
Herb Stratum (Plot size: 5ft)				Problematic Hydrophytic Vegetation ¹ (Explain)	
1. Lespedeza cuneata	80	<u>Y</u>	FACU	1 Toblematic Trydrophytic Vegetation (Explain)	
2. Schizachyrium scoparium	20	Υ	FACU	1	
3				¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.	st
4.					
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, les	ss
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Horle All banks as a configuration of the configura	
11				Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall.	ess
12.				or oze, and woody plante look than oze it tall.	
	100	= Total Co	ver	Woody vine – All woody vines greater than 3.28 ft i	n
Woody Vine Stratum (Plot size: 30ft)				height.	
1. N/A					
2.					
3.					
		-			
4				Hydrophytic	
5				Vegetation Present? Yes No	
6				Present? Yes No	
		= Total Co	ver		
Remarks: (Include photo numbers here or on a separate	sheet.)				
Hydrophytic vegetation has not develop	ned in th	e surve	v area		
Try are project to gottation made not develop	p = 0 t		y arear		

Sampling Point: Upland E

SOIL

Profile Desc	ription: (Describe	to the dept	h needed to docun	nent the ind	licator or conf	irm the ab	sence	of indicato	rs.)	
Depth	Matrix			x Features		<u> </u>				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹ Loc ²	Tex	ture		Remarks	
0-6	10yr 3/2	95				Sand	y clay	w/ gravel	inclusions	
		 				_				
		 				_				
1Tymor C. Cr	noontration D Dor	olotion DM I	Dadwaad Matrix MG	Mooked C	and Crains	2l acat	ioni Di	Doro Linin	a M Matrix	
Hydric Soil	oncentration, D=Dep	pietion, Rivi=i	Reduced Matrix, MS	=iviasked S	and Grains.	Locat		=Pore Linin		lydric Soils ³ :
-			D1-0((07)						-
Histosol			Dark Surface		(00) (84: 54.4	47 440\		cm Muck (A	, .	,
	oipedon (A2)				(S8) (MLRA 14		_ 0	oast Prairie)
Black Hi					MLRA 147, 148	5)	_	(MLRA 147		(540)
	n Sulfide (A4)		Loamy Gleye		1)		P	iedmont Flo		S (F19)
	d Layers (A5)		Depleted Mat				_	(MLRA 136		`
	ick (A10) (LRR N) d Below Dark Surfac	o (A11)	Redox Dark S Depleted Dar					ed Parent M	•	,
	ark Surface (A12)	e (ATT)	Redox Depre		7)			ery Shallow other (Explain		
	lucky Mineral (S1) (I DD N			(F12) (LRR N,			ılılei (⊏xpiaii	II III Kelliaik	5)
	147, 148)	LINI II,	MLRA 13		(F12) (LKK N,					
	Gleyed Matrix (S4)		Umbric Surfa	•	I DA 136 122)		3Ind	icators of hy	drophytic ve	getation and
	ledox (S5)				s (F19) (MLRA	1/8)		etland hydro		-
	Matrix (S6)		1 1001110111110	ouplain coil	3 (1 13) (MEICA	140)		nless disturb		-
	_ayer (if observed)						u	THOSE GISTAIL	ou or probit	inatio.
Type: Ro		•								
								D 10		/
Depth (inc	cnes): <u> </u>					нуа	ric Soii	Present?	Yes	No
Remarks:										
Hydric so	oil has not de	veloped	in the survey	area.						

Attachment to RFI 1-51, Page 071 of 316

Project/Site:Starfire Renewable Power Project City/C	County: Talcum, KY / Perry County	Sampling Date: 11/6/23			
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY	Sampling Point: Wetland F			
MD / II/	on, Township, Range:				
Landform (hillslope, terrace, etc.): Depression Local rel		Slone (%): 0-2			
Subregion (LRR or MLRA): LRR N Lat: 37.404065	-83.129679	Slope (70)			
Soil Map Unit Name: FaB—Fairpoint soils, undulating	Long.	Datum: 1 1 2 2 2			
Are climatic / hydrologic conditions on the site typical for this time of year?		,			
Are Vegetation, Soil, or Hydrology significantly disturbed.					
Are Vegetation, Soil, or Hydrology naturally problem	atic? (If needed, explain any answe	ers in Remarks.)			
SUMMARY OF FINDINGS - Attach site map showing san	npling point locations, transects	s, important features, etc.			
Hydrophytic Vegetation Present? Yes _ ✓ No Hydric Soil Present? Yes _ ✓ No Wetland Hydrology Present? Yes _ ✓ No Remarks: Remarks:	Is the Sampled Area within a Wetland?	No			
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment No continuous downstream or upstream connection.		an Normal" conditions			
HYDROLOGY Western Hydrology Indicators	Caandan India	atora (minimum of two required)			
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicates	ators (minimum of two required) I Cracks (B6)			
Surface Water (A1)		Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2) Hydrogen Sulfide Oc					
✓ Saturation (A3) Oxidized Rhizospher		₋ines (B16)			
Water Marks (B1) Presence of Reduce		Water Table (C2)			
Sediment Deposits (B2) Recent Iron Reduction					
Drift Deposits (B3) Thin Muck Surface (/isible on Aerial Imagery (C9)			
Algal Mat or Crust (B4) Other (Explain in Rel Iron Deposits (B5)		Stressed Plants (D1) c Position (D2)			
Inundation Visible on Aerial Imagery (B7)	Shallow Aqu				
Water-Stained Leaves (B9)		raphic Relief (D4)			
Aquatic Fauna (B13)	✓ FAC-Neutra				
Field Observations:					
Surface Water Present? Yes No ✓ Depth (inches):					
Water Table Present? Yes No ✓ Depth (inches):		/			
Saturation Present? Yes No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Prese	nt? Yes <u>√</u> No			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	l evious inspections), if available:				
C9: See aerial maps					
Remarks:					
No continuous downstream or upstream connection	on.				
Isolated to depressional feature.					
·					

Sampling Point: Wetland F

00%	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species
1. <u>N/A</u>				That Are OBL, FACW, or FAC: $\frac{1}{1}$ (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 (A/B)
6				
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species 80 x 1 = 80
15ft		= Total Cov	ver	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $\frac{10}{2}$ $x = \frac{20}{2}$
1. <u>N/A</u>				FAC species $0 \times 3 = 0$
2				FACU species $0 x 4 = 0$
3.				UPL species 0 $x = 0$
				00 400
4				Column Totals: 90 (A) 100 (B)
5				Prevalence Index = B/A = 1.1
6				
7.				Hydrophytic Vegetation Indicators:
8				2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0 ¹
10				4 - Morphological Adaptations ¹ (Provide supporting
		= Total Cov	ver	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5ft)				
1. Typha angustifolia	80	Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Juncus effusus	10	N	FACW	
				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				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				
11				Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
12	90			Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30ft)	90	= Total Cov	ver	height.
1. <u>N/A</u>				
2				
3				
4.				
				Hydrophytic
5				Vegetation
6				Present? Yes No
		= Total Cov	ver	
Remarks: (Include photo numbers here or on a separate	sheet)			
Hydrophytic vegetation has developed	in surve	y area.		

Color (moist) % Color (moist) % Type¹ Loc² Texture Remarks 10-10 10yr 5/1 95 Silty clay w/ gravel inclusions Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 2 Location: PL=Pore Lining, M=Matrix.	Color (moist) % Color (moist) % Type Loc² Texture Remarks 0-10 10yr 5/1 95 Silty clay W/ gravel inclusions Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Thydric Soil Indicators: Indicators for Problematic Hydric Hydric Soil Matrix (F3) Depletion Matrix (F3) Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soil Indicators for Problematic	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Thirefull Calcal Surface (ST) Dark Surface (ST) Dark Surface (ST) Dark Surface (SS) (MLRA 147, 148) Dark Surface (SS) (MLRA 147, 148) Dark Surface (SS) (MLRA 147, 148) Depleted Below Dark Surface (A11) Depleted Dark Surface (FS) Thick Dark Surface (A12) Redox Dark Surface (FS) Redox Dark Surface (FS) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Perpleted Dark Surface (TF12) Wery Shallow Dark Surface (TF12) Wery Shallow Dark Surface (TF12) Wery Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, MLRA 136) Sandy Redox (SS) Stripped Matrix (S6) Wetland hydrology must be present, unless disturbed or problematic. Wetland hydrology must be present, unless disturbed or problematic. Wetland hydrology must be present, unless disturbed or problematic.	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Histosol (A1) Dark Surface (S7) Histosol (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Hydrogen Sulfide (A4) Stratified Layers (A5) Zem Muck (A10) (LRR N) Redox Dark Surface (F6) Red Parent Material (TF2)	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Varies Soil Indicators:	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Stratified Layers (A5) Zem Muck (A10) (LRR N) Redox Dark Surface (F6) PL=Pore Lining, M=Matrix. Coastin: Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Redox Dark Surface (F6) Indicators for Problematic Hydric Hydrogen From Problematic Hydric Hydrogen Surface (A10) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Redox Dark Surface (F6) Indicators for Problematic Hydric (Hydrogen Surface (A10)) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Redox Dark Surface (F6) Indicators for Problematic Hydric Hydrogen From Problematic Hydric Hydrogen Surface (A10) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators:Indicators for Problematic HydricHistosol (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)(MLRA 147, 148)Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Piedmont Floodplain Soils (F1Stratified Layers (A5)Depleted Matrix (F3)(MLRA 136, 147)2 cm Muck (A10) (LRR N)Redox Dark Surface (F6)Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Redox Dark Surface (F6) Indicators for Problematic Hydric (Hydrogen Surface (A10)) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators:Indicators for Problematic HydricHistosol (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)(MLRA 147, 148)Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Piedmont Floodplain Soils (F1Stratified Layers (A5)Depleted Matrix (F3)(MLRA 136, 147)2 cm Muck (A10) (LRR N)Redox Dark Surface (F6)Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators:Indicators for Problematic HydricHistosol (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)(MLRA 147, 148)Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Piedmont Floodplain Soils (F1Stratified Layers (A5)Depleted Matrix (F3)(MLRA 136, 147)2 cm Muck (A10) (LRR N)Redox Dark Surface (F6)Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators:Indicators for Problematic HydricHistosol (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)(MLRA 147, 148)Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Piedmont Floodplain Soils (F1Stratified Layers (A5)Depleted Matrix (F3)(MLRA 136, 147)2 cm Muck (A10) (LRR N)Redox Dark Surface (F6)Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators:Indicators for Problematic HydricHistosol (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)(MLRA 147, 148)Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Piedmont Floodplain Soils (F1Stratified Layers (A5)Depleted Matrix (F3)(MLRA 136, 147)2 cm Muck (A10) (LRR N)Redox Dark Surface (F6)Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Redox Dark Surface (F6) Indicators for Problematic Hydric Hydrogen Sundicators for Problematic Hydric Hydric Hydrogen Sundicators for Problematic Hydric	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Redox Dark Surface (F6) Indicators for Problematic Hydric (Hydrogen Surface (A10)) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Red Parent Material (TF2)	
Algoric Soil Indicators: Histosol (A1)	Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Redox Dark Surface (F6) Indicators for Problematic Hydric Hydrogen Sundicators for Problematic Hydric Hydric Hydrogen Sundicators for Problematic Hydric	
Histosol (A1)	Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F1) (MLRA 136, 147) Redox Dark Surface (F6) Red Parent Material (TF2)	ric Soils ³
Histic Epipedon (A2)	Histic Epipedon (A2)Polyvalue Below Surface (S8) (MLRA 147, 148)Coast Prairie Redox (A16)Black Histic (A3)Thin Dark Surface (S9) (MLRA 147, 148)(MLRA 147, 148)Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Piedmont Floodplain Soils (F1Stratified Layers (A5)✓ Depleted Matrix (F3)(MLRA 136, 147)2 cm Muck (A10) (LRR N)Redox Dark Surface (F6)Red Parent Material (TF2)	
Hydrogen Sulfide (A4) 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, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stripped Matrix (S6) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 136, 122) John Call Companies (Matrix (S6) Restrictive Layer (if observed): Type: Rock Depth (inches): 10 Thin Dark Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 147, 148) Remarks: (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 147, 148) Piedmont Floodplain in Remarks) Other (Explain in Remarks) John Call Call Call Call Call Call Call Cal	Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148)(MLRA 147, 148) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F1 Stratified Layers (A5) Depleted Matrix (F3)(MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Red Parent Material (TF2)	,
Stratified Layers (A5)	Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Matrix (F3) Redox Dark Surface (F6) MLRA 136, 147) Red Parent Material (TF2)	
2 cm Muck (A10) (LRR N)	2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Red Parent Material (TF2)	19)
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) Restrictive Layer (if observed): Type: Rock Depth (inches): 10 Depleted Dark Surface (F7) Redox Depressions (F8) Lron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) MRLRA 148) MIRA 148) Surface (F7) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Iron-Manganese Masses (F12) (LRR N, MLRA 136, Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes ✓ No Remarks:		
Thick Dark Surface (A12)	Depleted Below Dark Surface (ATT) Depleted Dark Surface (FT) Very Strailow Dark Surface (T	TE10\
Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks)	1712)
MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Restrictive Layer (if observed): Type: Rock Depth (inches): 10 Remarks: MLRA 136) Umbric Surface (F13) (MLRA 136, 122) MLRA 136, 122) MLRA 136, 122) MLRA 136, 122) MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes ✓ No		
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock Depth (inches): 10 Hydric Soil Present? Yes No		
Stripped Matrix (S6) unless disturbed or problematic. Restrictive Layer (if observed): Type: Rock Depth (inches): 10 Hydric Soil Present? Yes ✓ No Remarks:		
Restrictive Layer (if observed): Type: Rock Depth (inches): 10 Hydric Soil Present? Yes Volume No Remarks:		
Type: Rock Depth (inches): 10 Remarks: Hydric Soil Present? Yes ✓ No		itic.
Depth (inches): 10 Hydric Soil Present? Yes V No Remarks:		
Remarks:	7.	No
		NO
iyaric soli with depleted matrix observed.		
	lydric soil with depleted matrix observed.	

Attachment to RFI 1-51, Page 074 of 316

Project/Site:Starfire Renewable Power Project	City/County: Talcum	, KY / Perry County	Sampling Date: 11/6/23
Project/Site:Starfire Renewable Power Project Applicant/Owner:STMO bn, LLC		State: KY	Sampling Point: Upland F
Investigator(s): MB / JK			
Landform (hillslope, terrace, etc.): Terrace			Slana (%): 0
Landroff (fillistope, terrace, etc.)	arreller (concave, cor	-83 129537	Slope (%)
Subregion (LRR or MLRA): LRR N Lat: 37.403925	Lo	ng:	Datum: 14/1200
Soil Map Unit Name: FaB—Fairpoint soils, undulating			
Are climatic / hydrologic conditions on the site typical for this time of year			
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are	"Normal Circumstances" p	oresent? Yes <u>✓</u> No
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If n	needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling point	locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes No ✓ Yes No ✓ Remarks:	Is the Sample within a Wetla		No
Survey conducted during the "Wet Season". Us and "Incipient drought" for the date of assessmulpland survey point for Wetland F.		ta shows "Drier th	an Normal" conditions
HYDROLOGY			
Wetland Hydrology Indicators:			ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil	
Surface Water (A1) True Aquatic PI			getated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfic Saturation (A3) Oxidized Rhizo:	spheres on Living Roc	Drainage Pa ots (C3) Moss Trim L	
Water Marks (B1) Presence of Re			Water Table (C2)
	duction in Tilled Soils		
Drift Deposits (B3) Thin Muck Surfa			isible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain i			tressed Plants (D1)
Iron Deposits (B5)		Geomorphic	Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aqu	
Water-Stained Leaves (B9)		Microtopogra	aphic 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)	:		1
Saturation Present? Yes No _ ✓ Depth (inches) (includes capillary fringe)	: w	etland Hydrology Preser	nt? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspection	ns), if available:	
Remarks:			
Topography not conducive to wetland develop	ment.		

000	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A))
2				Total Novel and Charles	
3				Total Number of Dominant Species Across All Strata: 2 (B)	١
				opedies Across All Ottala.	′
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0 (A/	/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Co	ver	OBL species $\frac{0}{x} \times 1 = \frac{0}{x}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 x 3 = 0$	
2				FACU species 100 x 4 = 400	
3.				UPL species $0 x 5 = 0$	
				Column Totals: 100 (A) 400 (E	3)
4				(1)	,
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	
10					:a
		= Total Co	ver	4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet)	ing
Herb Stratum (Plot size: 5ft)				Problematic Hydrophytic Vegetation ¹ (Explain)	
1. Lespedeza cuneata	80	<u>Y</u>	FACU	1 Toblematic Trydrophytic Vegetation (Explain)	
2. Schizachyrium scoparium	20	Υ	FACU	1	
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	1
4.				· ·	
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, les	s
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Horle All bank assess (see seeds) plants regardle	
11				Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.	SS
12					
	100	= Total Co	ver	Woody vine – All woody vines greater than 3.28 ft in	1
Woody Vine Stratum (Plot size: 30ft)				height.	
1. N/A					
2					
3					
4				Hydrophytic	
5				Vegetation Present? Yes No	
6				Present? Yes No _*	
		= Total Co	ver		
Remarks: (Include photo numbers here or on a separate	sheet.)				
Hydrophytic vegetation has not develop	ped in th	e surve	v area.		
			,		

Sampling Point: Upland F

Depth	Matrix	%	Redox Features Color (moist) % Type ¹ Loc ²	T	Damada
nches) -6	Color (moist) 10yr 3/2	<u>%</u> 95	Color (moist) % Type ¹ Loc ²	Texture Sandy clay	Remarks w/ gravel inclusions
	10yl 3/2	_ = = = = = = = = = = = = = = = = = = =		Salidy Gay	w/ graver iricidsions
	<u> </u>				
					-
	- ·				
	<u> </u>				
					-
ype: C=C	Concentration, D=De	epletion, RM=	Reduced Matrix, MS=Masked Sand Grains.	² Location: Pl	L=Pore Lining, M=Matrix.
	Indicators:	•			ators for Problematic Hydric Soils ³ :
_ Histosol	l (A1)		Dark Surface (S7)	2	2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Below Surface (S8) (MLRA 147)		Coast Prairie Redox (A16)
Black H	listic (A3)		Thin Dark Surface (S9) (MLRA 147, 148)		(MLRA 147, 148)
_ Hydroge	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	F	Piedmont Floodplain Soils (F19)
	ed Layers (A5)		Depleted Matrix (F3)		(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark Surface (F6)		Red Parent Material (TF2)
	ed Below Dark Surfa	ace (A11)	Depleted Dark Surface (F7)		/ery Shallow Dark Surface (TF12)
	Park Surface (A12)		Redox Depressions (F8)	0	Other (Explain in Remarks)
	Mucky Mineral (S1)	(LRR N,	Iron-Manganese Masses (F12) (LRR N,		
	A 147, 148)		MLRA 136)	31	dicators of hydrophytic vegetation and
	Gleyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 122)		
_ Sandy F	Redox (S5)		Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present,
_ Sandy F _ Stripped	Redox (S5) d Matrix (S6)	N·		18) v	
_ Sandy F _ Stripped estrictive	Redox (S5) d Matrix (S6) Layer (if observed	I):		18) v	vetland hydrology must be present,
Sandy For Stripped estrictive Type: Ro	Redox (S5) d Matrix (S6) Layer (if observedock	I):		18) v	vetland hydrology must be present, unless disturbed or problematic.
Sandy For Stripped Partictive Type: Round Depth (in	Redox (S5) d Matrix (S6) Layer (if observedock	i):		18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6			18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
Sandy For Stripped Strictive Type: Round Depth (in semarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
Sandy For Stripped Strictive Type: Round Depth (in semarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
Sandy For Stripped Strictive Type: Round Depth (in semarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
Sandy For Stripped Strictive Type: Round Depth (in semarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in emarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in emarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in emarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
Sandy For Stripped Strictive Type: Round Depth (in semarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
Sandy For Stripped Strictive Type: Round Depth (in semarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.
Sandy For Stripped Strictive Type: Round Depth (in semarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 6		Piedmont Floodplain Soils (F19) (MLRA 14	18) v	vetland hydrology must be present, unless disturbed or problematic.

Attachment to RFI 1-51, Page 077 of 316

Projective Startine Renevable Power Project City/County: Talcum, KY / Parry County State: KY Sampling Date: 11/8/23 Applican/Owner/STMD bn, LLC Section, Township, Range: Landform (fillslope, terrace, act): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2 Storegion (LRR or MLRA): LBR Nex 1, 37 401940 Long: 93.12882 Datum No (IR or MLRA): LBR No (IR or Action (IR or MLRA): LBR No (IR or MLRA): LBR No (IR or MLRA): LBR No (IR or Action (IR or MLRA)	Project/Site:Starfire Renewable Power Project Ci	ity/County: Talcum, KY / P	erry County	Sampling Date: 11/6/23
Investigator(s): MB / JK Section, Township, Range: Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2 Subregion (LRR or MLRA): LRR N Lat: 37.401940 Long: -83.128992 Datum; NAD83 Soli Map Unit Name: FaB—Falirpoint soils, undulating 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 aginficantly disturbed? Are "Nomal Circumstances" present? Yes ✓ No Orthydrology — naturally problematic? SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes ✓ No Is the Sampled Area within a Wetland? Yes ✓ No Wetland Hydrology Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No Surface Water (A1) The date of assessment. No continuous downstream or upstream connection. Isolated feature. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Spracely Vegetated Concave Surface (B8) Spracely Vegetated Concave Surface (B8) Hydrogology Indicators (B2) Record Into Reduction in Tilled Soils (C8) Drivage Patient Fable (A2) Hydrogology Sulfide Odor (C1) Originage Patients (B10) Drivage Patients (B10) Noss Tim Lines (B16) Drivage Patients (B10) Drivage Patients (Applicant/Owner:STMO bn. LLC		State: KY	Sampling Point: Wetland G
Landform (hillslope, terrace, etc.): Depression	MD / II/			
Subregion (LRR or MLRA): LRR N Lat: 37.401940 Long: -83.128892	-			Slope (%): 0-2
Soil Map Unit Name: FaB—Fall-point soils, undulating NWI classification: None Are climatic / hydrologic conditions on the site typical for this time of year? Yes	Landrollii (fillisiope, terrace, etc.)	-83	128892	Slope (%)
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	Subregion (LRR or MLRA): Lat: 07.401040	Long:	120032	Datum: 1471200
Are Vegetation, Soil or Hydrology significantly disturbed?				
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present?				
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present?	Are Vegetation, Soil, or Hydrology significantly di	sturbed? Are "Normal	Circumstances" p	resent? Yes _ No
Hydrophytic Vegetation Present? Yes	Are Vegetation, Soil, or Hydrology naturally problem.	ematic? (If needed, e	explain any answe	rs in Remarks.)
Hydric Soil Present? Yes	SUMMARY OF FINDINGS - Attach site map showing s	sampling point location	ns, transects	, important features, etc.
and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection. Isolated feature. No continuous downstream or upstream connection. Isolated feature. HyDROLOGY	Hydric Soil Present? Yes Wetland Hydrology Present? Yes No	-	Yes <u></u> ✓	No
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 Sulfide Odor (C1) Drainage Patterns (B10) 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) Sediment Deposits (B2) Recent Iron 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 (Explain in Remarks) Stunted or Stressed Plants (D1) Inundation Visible on Aerial Imagery (B7)	and "Incipient drought" for the date of assessme No continuous downstream or upstream connec	ent.		an Normal" conditions
Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Recent Iron Reduction in Tilled Soils (C6) Prift Deposits (B3) Thin Muck Surface (C7) Iron Deposits (B5) Iron Deposits (B5) Mater-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Presence of Reduced Iron (C4) Presence of Reduced Ir			Cocondon India	toro (minimum of two required)
Surface Water (A1)				
High Water Table (A2)		oto (P14)		
✓ 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) Sediment Deposits (B2) Recent Iron 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 (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 Open the (inches): Wetland Hydrology Present? Yes ✓ No Open the (inches): Saturation Present? Yes ✓ No Depth (inches): Wetland Hydrology Present? Yes ✓ No Open the coorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.	<u> </u>			
Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron 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 (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Mater-Stained Leaves (B9) Aquatic Fauna (B13) Microtopographic Relief (D4) FAC-Neutral Test (D5) Stallow Aquitand (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Stallow Aquitand (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Stallow Aquitand (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Modern Table Present? Yes No Depth (inches): Modern Table Present? Yes No Depth (inches): Modern Table Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.				
Sediment Deposits (B2) Recent Iron 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 (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Shallow Aquitard (D3) Water-Stained Leaves (B9) Aquatic Fauna (B13) Microtopographic Relief (D4) FAC-Neutral Test (D5) Sturface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Saturation Present? Geomorphic Present? Yes No Depth (inches): Saturation Present? Yes No Saturation P				
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.				
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) 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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.	Drift Deposits (B3) Thin Muck Surface	e (C7)	✓ Saturation Vi	sible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) 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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.	Algal Mat or Crust (B4) Other (Explain in	Remarks)	Stunted or S	tressed Plants (D1)
Water-Stained Leaves (B9) Aquatic Fauna (B13) 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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.	1 			
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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.				
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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.				
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches):			<u>✓</u> FAC-Neutral	Test (D5)
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.				
Saturation Present? Yes No Depth (inches): _0 Wetland Hydrology Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.		0	landarda ara Barana	10 Var V
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: C9: See aerial maps Remarks: No continuous downstream or upstream connection.		wetland H	iyarology Presen	t? Yes No
Remarks: No continuous downstream or upstream connection.		previous inspections), if ava	ilable:	
No continuous downstream or upstream connection.	C9: See aerial maps			
·	Remarks:			
Isolated to depressional feature.	No continuous downstream or upstream connec	tion.		
	Isolated to depressional feature.			
	·			

- 20ft	Absolute	Dominant		Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>) 1. <u>N/A</u>		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A	A)
2				Total Number of Dominant	٥١
				Species Across All Strata: 1 (E)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A	A/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
15ft		= Total Cov	er	OBL species $\frac{100}{0}$ $\times 1 = \frac{100}{0}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $\frac{0}{0}$ $x = 2 = \frac{0}{0}$	
1. <u>N/A</u>				rac species x s =	
2				FACU species $\frac{0}{0}$ $x = 4$	
3				UPL species $0 \times 5 = 0$	
4				Column Totals: 100 (A) 100	(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	
10				4 - Morphological Adaptations ¹ (Provide suppor	rtina
Hart Objective (District 5ft		= Total Cov	er	data in Remarks or on a separate sheet)	imig
Herb Stratum (Plot size: 5ft 1. Typha angustifolia	100	V	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)	
		<u>Y</u>			
2				¹ Indicators of hydric soil and wetland hydrology mus	st
3				be present, unless disturbed or problematic.	
4				Definitions of Four Vegetation Strata:	
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	ı) or
6				more in diameter at breast height (DBH), regardless	
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	ss
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Herb – All herbaceous (non-woody) plants, regardle	226
11				of size, and woody plants less than 3.28 ft tall.	033
12					.
20#	100	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft height.	in
Woody Vine Stratum (Plot size: 30ft)					
1. <u>N/A</u>					
2					
3					
4				Hydrophytic	
5				Vegetation	
6				Present? Yes No	
		= Total Cov	er		
Remarks: (Include photo numbers here or on a separate	sheet.)				
Hydrophytic vegetation has developed	in surve	v area.			
. iy ar opriiy are regeramen mare a everepea		<i>y</i>			

SOIL

Sampling Point: Wetland G

Profile Desc	ription: (Describe	to the dept	h needed to docum	ent the indic	ator or confirm	the abs	sence of indicato	ors.)	
Depth	Matrix		Redox	Features					
(inches)	Color (moist)	%	Color (moist)	%Ty	/pe ¹ Loc ²	Text	ure	Remarks	
0-10	10yr 5/1	90				Silty c	lay w/ grave	l inclusions	
	-								
									_
									_
									
		· ——							
	· -								
1 _{Tymax} C. C.	noontrotion D Don	Jotion DM I	Dadwaad Matrix MC	Mosked Co.	ad Craina	21 apptio	n. Di Doro Linir	a M Motrix	
Hydric Soil	oncentration, D=Dep	ietion, Rivi=i	Reduced Matrix, MS	=Masked Sai	nd Grains.		on: PL=Pore Linir Indicators for Pr		Irio Soilo ³ :
-			D 10 ((07)				_	
Histosol			Dark Surface	. ,	20) (84) 84 445	4.40\		A10) (MLRA 14	7)
	pipedon (A2)				88) (MLRA 147 ,	148)		Redox (A16)	
Black Hi					_RA 147, 148)		(MLRA 14		
	n Sulfide (A4)		Loamy Gleye	, ,				oodplain Soils (F	-19)
	Layers (A5)		✓ Depleted Mat				(MLRA 13		
	ck (A10) (LRR N)	- (044)	Redox Dark S	, ,	`			Material (TF2)	(TE40)
	Below Dark Surfac	e (A11)	Depleted Dar)			Dark Surface ((1F12)
	ark Surface (A12)	DD N	Redox Depre		-40) (I DD N		Other (Expla	in in Remarks)	
	lucky Mineral (S1) (I	LKK N,	Iron-Mangane		-12) (LKK N,				
	147, 148)		MLRA 136	•	DA 426 422\		³ Indicators of hy	(draphytia vaga	tation and
	leyed Matrix (S4) edox (S5)				(F19) (MLRA 14	10/		ology must be p	
	Matrix (S6)		Fleamont Flo	Jupiairi Solis	(F19) (WILKA 14	ю)			
	-ayer (if observed):					1	uriless distui	bed or problem	alic.
Type: Ro		•							
						1		/	
Depth (inc	ches):					Hydri	c Soil Present?	Yes	No
Remarks:									
Hydric so	oil with deplete	ed matri	x observed.						
-	•								

Attachment to RFI 1-51, Page 080 of 316

Project/Site:Starfire Renewable Power Project	City/County: Talcum, KY	Perry County	Sampling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> Applicant/Owner: <u>STMO bn, LLC</u>	, ,	State: KY	Sampling Point: Upland G
Investigator(s): MB / JK			
Landform (hillslope, terrace, etc.): Terrace Loc			Slone (%): 0
Landrofff (fillistope, terrace, etc.)	arreller (concave, convex, r	33 128825	Slope (%)
Subregion (LRR or MLRA): LRR N Lat: 37.401954	Long:	0.120020	Datum:
Are climatic / hydrologic conditions on the site typical for this time of year			
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Norn	nal Circumstances"	present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If needed	l, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling point local	tions, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes No _ ✓ Hydric Soil Present? Yes No _ ✓ Wetland Hydrology Present? Yes No _ ✓ Remarks:	Is the Sampled Area within a Wetland?		
Survey conducted during the "Wet Season". US and "Incipient drought" for the date of assessm Upland survey point for Wetland G.		ows "Drier th	an Normal" conditions
HYDROLOGY			
Wetland Hydrology Indicators:			ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil	
Surface Water (A1) True Aquatic Pla			getated Concave Surface (B8)
High Water Table (A2) — Hydrogen Sulfid Setumation (A2) — Ovidinal Philosomers Ovidinal Philosomers			atterns (B10)
Saturation (A3) Oxidized Rhizos Water Marks (B1) Presence of Re	spheres on Living Roots (C3		Water Table (C2)
	duction in Tilled Soils (C6)	Crayfish Bu	
Drift Deposits (B3) Thin Muck Surfa			risible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain i			Stressed Plants (D1)
Iron Deposits (B5)	,		Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aqu	
Water-Stained Leaves (B9)			aphic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutra	l Test (D5)
Field Observations:			
Surface Water Present? Yes No✓ Depth (inches)	:		
Water Table Present? Yes No ✓ Depth (inches)	:		
Saturation Present? Yes No ✓ Depth (inches)	Wetland	d Hydrology Prese	nt? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	s. previous inspections), if a	vailable:	
3.,3.,	-,,		
Remarks:			
Topography not conducive to wetland developr	ment		
Topography not contactive to wettand develop	none.		

000	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A))
2				Total Novel and Charles	
3				Total Number of Dominant Species Across All Strata: 2 (B)	١
				opedies Across All Ottala.	′
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0 (A/	/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Co	ver	OBL species $\frac{0}{x} \times 1 = \frac{0}{x}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 x 3 = 0$	
2				FACU species 100 x 4 = 400	
3.				UPL species $0 x 5 = 0$	
				Column Totals: 100 (A) 400 (E	3)
4				Column rotals (rt)	,
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	
10					:a
		= Total Co	ver	4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet)	ing
Herb Stratum (Plot size: 5ft)				Problematic Hydrophytic Vegetation ¹ (Explain)	
1. Lespedeza cuneata	80	<u>Y</u>	FACU	1 Toblematic Trydrophytic Vegetation (Explain)	
2. Schizachyrium scoparium	20	Υ	FACU	1	
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	1
4.				· ·	
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, les	s
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Horle All bank assess (see seeds) plants regardle	
11				Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.	SS
12					
	100	= Total Co	ver	Woody vine – All woody vines greater than 3.28 ft in	1
Woody Vine Stratum (Plot size: 30ft)				height.	
1. N/A					
2					
3					
4				Hydrophytic	
5				Vegetation Present? Yes No	
6				Present? Yes No _*	
		= Total Co	ver		
Remarks: (Include photo numbers here or on a separate	sheet.)				
Hydrophytic vegetation has not develop	ped in th	e surve	v area.		
			,		

Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Dark Surface (S7) Polyvalue Below Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)	Remarks W/ gravel inclusions PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils³: 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. pdric Soil Indicators: Histic Spipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A12) Depleted Dark Surface (F6) Depleted Below Dark Surface (A12) Stratified Layers (A5) Depleted Dark Surface (F6) Depleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 147, 148) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Jubic Carcon Sand Grains Location: Plocation: Plocation	PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Histosol (A1) Histosol (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Dark Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) January Gleyed Matrix (S4) Dark Surface (S7) Polyvalue Below Surface (S9) (MLRA 147, 148) Redox Dark Surface (F2) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Jumbric Surface (F13) (MLRA 136, 122)	cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Histosol (A1) Histosol (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Dark Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) January Gleyed Matrix (S4) Dark Surface (S7) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Depressions (F8) Jeron-Manganese Masses (F12) (LRR N, MLRA 136, 122)	cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Histosol (A1) Histosol (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Dark Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) January Gleyed Matrix (F2) Depleted Dark Surface (F6) Depleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 136) Jumbric Surface (F13) (MLRA 136, 122)	cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Jandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)	cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
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MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)	edicators of hydrophytic vagatation and
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ In	edicators of hydrophytic vogotation and
	iulcators of fivuroprivite vedetation and
	wetland hydrology must be present,
	unless disturbed or problematic.
estrictive Layer (if observed):	· · · · · · · · · · · · · · · · · · ·
Type: Rock	
·	il Present? Yes No _✓
emarks:	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
ydric soil has not developed in the survey area.	

Attachment to RFI 1-51, Page 083 of 316

Project/Site:Starfire Renewable Power Project City/C	ounty: Talcum, KY / Perry County	Sampling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY	Sampling Point: Wetland H
MD / UZ	on, Township, Range:	
Landform (hillslope, terrace, etc.): Toe of slope Local reli		Slone (%): 0-2
Cubrasian (LDR or MLDA). LRR N Lat. 37.412529	-83.127760	Dotum: NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.412529 Soil Map Unit Name: FbD—Fairpoint and Bethesda soils, 0 to 20 percentage.	cent slopes	None
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 problems	itic? (If needed, explain any ansi	wers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing same	pling point locations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes/ No Hydric Soil Present? Yes/ No Wetland Hydrology Present? Yes/ No Remarks:		/ No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection		han Normal" conditions
HYDROLOGY		
Wetland Hydrology Indicators:		icators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface S	
✓ Surface Water (A1) True Aquatic Plants (High Water Table (A2) Hydrogen Sulfide Odd		/egetated Concave Surface (B8)
✓ Saturation (A3) — Oxidized Rhizosphere		Lines (B16)
Water Marks (B1) Presence of Reduced		on Water Table (C2)
Sediment Deposits (B2) Recent Iron Reductio		surrows (C8)
Drift Deposits (B3) Thin Muck Surface (C	.7) _ <u>√</u> Saturation	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Ren		Stressed Plants (D1)
Iron Deposits (B5)		nic Position (D2)
✓ Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)		quitard (D3)
Aquatic Fauna (B13)	Microtopo	graphic Relief (D4)
Field Observations:		Tall 1001 (D0)
Surface Water Present? Yes _ ✓ No Depth (inches): 0		
Water Table Present? Yes No Depth (inches):		_
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Pres	ent? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections) if available:	
B7, C9: See aerial maps	vious inspections), il available.	
Remarks:		
No continuous downstream or upstream connectio	n	
Isolated to depressional feature.	11.	
Vehicle trail dissects wetland, wetland features on	either side	
Raised gravel road bed, to the south, impounds do		
Traised graver road bed, to the south, impounds do	Wildlicam connection.	
1		

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 x 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

addinion to the first ago doo of ore	, , Wetland H
	Sampling Point: VVetiand 11

Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Features % Type ¹	Loc ²	Texture	e Remarks
0-2	10yr 4/4	100	COIOI (IIIOISI)		LUC	Clay	, Nemarks
!-12	10yr 5/1	100				Clay	
				· 			
	-				· 		 , -
	-			·			
	-						
		nlation DM	Deduced Metric MC	. Maalaad Canad Ca		21	DI Dana Linia a M Matrix
	Indicators:	pietion, Rivi	=Reduced Matrix, MS	s=Masked Sand Gi	ains.		PL=Pore Lining, M=Matrix. dicators for Problematic Hydric Soils ³ :
_ Histosol			Dark Surface	(97)			_ 2 cm Muck (A10) (MLRA 147)
	pipedon (A2)			low Surface (S8) (I	WI RΔ 147	148)	Coast Prairie Redox (A16)
	istic (A3)			rface (S9) (MLRA		140)	(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye		, ,		Piedmont Floodplain Soils (F19)
	d Layers (A5)		✓ Depleted Mat	, ,			(MLRA 136, 147)
2 cm Mu	uck (A10) (LRR N)		Redox Dark S	Surface (F6)			Red Parent Material (TF2)
	d Below Dark Surfa	ce (A11)		k Surface (F7)			_ Very Shallow Dark Surface (TF12)
	ark Surface (A12)		Redox Depre			_	Other (Explain in Remarks)
	Mucky Mineral (S1)	(LRR N,		ese Masses (F12)	(LRR N,		
	A 147, 148)		MLRA 13	•	26 422)	;	Indicators of hydrophytic vacatation and
	Gleyed Matrix (S4)			ce (F13) (MLRA 13			Indicators of hydrophytic vegetation and
Sandy			Diadmont Flo	odnisin Soile (F10)	/MIPA 1/	181	wetland hydrology must be present
	Redox (S5)		Piedmont Flo	odplain Soils (F19)	(MLRA 14	18)	wetland hydrology must be present,
_ Stripped	d Matrix (S6)):	Piedmont Flo	odplain Soils (F19)) (MLRA 14	18)	wetland hydrology must be present, unless disturbed or problematic.
_ Stripped estrictive	Matrix (S6) Layer (if observed)			odplain Soils (F19)) (MLRA 14	18)	
_ Stripped estrictive Type:	d Matrix (S6) Layer (if observed			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observed			odplain Soils (F19)) (MLRA 14		
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed) ches):			oodplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
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Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
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Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)	(MLRA 14		unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)	(MLRA 14		unless disturbed or problematic.
Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)	(MLRA 14		unless disturbed or problematic.
Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observed) ches):			odplain Soils (F19)) (MLRA 14		unless disturbed or problematic.

Attachment to RFI 1-51, Page 086 of 316

Project/Site: Starfire Renewable Power Project City	/County: Talcum, KY / Perry Co	ounty Sampling Date: 11/6/23		
Applicant/Owner:STMO bn, LLC	State:	KY Sampling Point: Upland H		
Investigator(s): MB / JK Sec				
Landform (hillslope, terrace, etc.): Terrace Local r	elief (concave, convex, none): Flat	t Slope (%): 0		
Subregion (LRR or MLRA): LRR N Lat: 37.412814	Long: -83.127484	Datum: NAD83		
Subregion (LRR or MLRA): LRR N Lat: 37.412814 Soil Map Unit Name: FbD—Fairpoint and Bethesda soils, 0 to 20 pe	ercent slopes NW	/I classification: None		
Are climatic / hydrologic conditions on the site typical for this time of year?				
Are Vegetation, Soil, or Hydrology significantly dist	urbed? Are "Normal Circums	stances" present? Yes <u>✓</u> No		
Are Vegetation, Soil, or Hydrology naturally probler				
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, tra	ansects, important features, etc.		
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Survey conducted during the "Wet Season" USA		esNo		
Survey conducted during the "Wet Season". USA and "Incipient drought" for the date of assessmen Upland survey point for Wetland H.		Tier than Normal Conditions		
HYDROLOGY				
Wetland Hydrology Indicators:	·	ary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that apply)		rface Soil Cracks (B6)		
Surface Water (A1) True Aquatic Plants		Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2) Saturation (A3) Hydrogen Sulfide C Oxidized Rhizosphe		Drainage Patterns (B10) Moss Trim Lines (B16)		
Value Marks (B1) Presence of Reduc		y-Season Water Table (C2)		
Sediment Deposits (B2) Recent Iron Reduct Recent Iron Reduct		ayfish Burrows (C8)		
Drift Deposits (B3) Thin Muck Surface		turation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Other (Explain in R		inted or Stressed Plants (D1)		
Iron Deposits (B5)	Geo	omorphic Position (D2)		
Inundation Visible on Aerial Imagery (B7)	Sha	allow Aquitard (D3)		
Water-Stained Leaves (B9)	Mic	crotopographic Relief (D4)		
Aquatic Fauna (B13)	FA0	C-Neutral Test (D5)		
Field Observations:				
Surface Water Present? Yes No Depth (inches):				
Water Table Present? Yes No Depth (inches):		<i></i>		
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	Wetland Hydrolog	gy Present? Yes No		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:			
Remarks:				
Topography not conducive to wetland developme	nt.			

00%	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Deminent	
3				Total Number of Dominant Species Across All Strata: 1 (B)
4.				(_,
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0	A/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Cove	r	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species	
3				UPL species $0 \times 5 = 0$	
				400 400	(D)
4				Column Totals: 100 (A) 400	(D)
5				Prevalence Index = B/A = 4.0	
6			-		
7				Hydrophytic Vegetation Indicators:	
8				1 - Rapid Test for Hydrophytic Vegetation	
9.				2 - Dominance Test is >50%	
				3 - Prevalence Index is ≤3.0 ¹	
10				4 - Morphological Adaptations ¹ (Provide suppo	orting
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	ŭ
1 Lespedeza cuneata	100	Y I	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
···					
2				¹ Indicators of hydric soil and wetland hydrology mu	.ot
3				be present, unless disturbed or problematic.	151
4				Definitions of Four Vegetation Strata:	
5.				Definitions of Four Vegetation Strata:	
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	n) or
6				more in diameter at breast height (DBH), regardles	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	225
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall.	less
12.	_			of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove	-	Woody vine - All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate			-		
Hydrophytic vegetation has not develop	ped in th	ie survey	area.		

Sampling Point: Upland H

Profile Desc	ription: (Describe	to the depth	needed to docur	nent the ir	ndicator	or confirm	the abse	nce of indicate	ors.)	
Depth	Matrix		Redo	x Features	3					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	e	Remarks	3
0-8	10yr 4/1	100					Sandy cl	lay		
										
-										
								<u> </u>		
										
		· ——								
								<u> </u>		
1		letter DM D	and an and Marketin MAR		0		21	DI Daniel Cal	an M. Matel	
	ncentration, D=Dep	letion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.		: PL=Pore Lini		
Hydric Soil I							ın	dicators for P		-
Histosol			Dark Surface		45		_	_ 2 cm Muck (
	ipedon (A2)		Polyvalue Be				148)	_ Coast Prairie	,	5)
Black His			Thin Dark Su	. ,	•	47, 148)		(MLRA 14		
	n Sulfide (A4)		Loamy Gleye		F2)		_	_ Piedmont Fl		s (F19)
	Layers (A5)		Depleted Ma					(MLRA 13		
	ck (A10) (LRR N)		Redox Dark	,	,		_		Material (TF2	
	Below Dark Surfac	e (A11)	Depleted Dai				_	_ Very Shallov		
	rk Surface (A12)		Redox Depre				_	_ Other (Expla	ain in Remark	(S)
	ucky Mineral (S1) (I	-RR N,	Iron-Mangan		es (F12) (I	LRR N,				
	147, 148)		MLRA 13	•		0 400)		3		
	leyed Matrix (S4)		Umbric Surfa					³ Indicators of h		-
	edox (S5)		Piedmont Flo	odplain So	oils (F19)	(MLRA 14	18)		rology must b	
	Matrix (S6)						1	unless distui	rbed or proble	ematic.
	ayer (if observed):									
Type: Ro										
Depth (inc	hes): <u>8</u>						Hydric	Soil Present?	Yes	No <u></u>
Remarks:							ı			
Hydric so	oil has not dev	/eloned i	n the survey	area						
i iyano oc	ii rido riot do	olopou II	ir and dan voy	aroa.						

Attachment to RFI 1-51, Page 089 of 316

Project/Site:Starfire Renewable Power Project City	//County: Talcum, KY / Perry County	Sampling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> City Applicant/Owner: STMO bn, LLC	State: KY	Sampling Point: Wetland I
MD / UZ	ction, Township, Range:	
Landform (hillslope, terrace, etc.): Depression Local		Slope (%): 0-2
Subregion (LRR or MLRA): LRR N Lat: 37.402731	Long: -83.127847	Datum: NAD83
Soil Map Unit Name: FaB—Fairpoint soils, undulating	Long	sification: None
Are climatic / hydrologic conditions on the site typical for this time of year?		
Are Vegetation, Soil, or Hydrology significantly dis		
Are Vegetation, Soil, or Hydrology naturally proble	matic? (If needed, explain any ans	swers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point locations, transe	cts, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Survey conducted during the "Wet Season". USA and "Incipient drought" for the date of assessment.	ACE APT data shows "Drier nt.	✓ No than Normal" conditions
No continuous downstream or upstream connect	ion. Isolated feature.	
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Inc	dicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface S	Soil Cracks (B6)
✓ Surface Water (A1) True Aquatic Plant		Vegetated Concave Surface (B8)
→ High Water Table (A2) → Hydrogen Sulfide (A2) → Hydrogen Sulfi		Patterns (B10)
	eres on Living Roots (C3) Moss Trir	
✓ Water Marks (B1) Presence of Reduc		son Water Table (C2)
		Burrows (C8)
Drift Deposits (B3) Thin Muck Surface Algal Mat or Crust (B4) Other (Explain in F		n Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in F Iron Deposits (B5)		or Stressed Plants (D1) whic Position (D2)
✓ Inundation Visible on Aerial Imagery (B7)	Shallow A	, ,
Water-Stained Leaves (B9)		ographic Relief (D4)
Aquatic Fauna (B13)		itral Test (D5)
Field Observations:		
Surface Water Present? Yes No Depth (inches):		
Water Table Present? Yes No Depth (inches): _		
Saturation Present? Yes ✓ No Depth (inches): 0	Wetland Hydrology Pre	sent? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	l previous inspections). if available:	
B7, C9: See aerial maps	2,7	
Remarks:		
No continuous downstream or upstream connect	ion	
Shallow ponded water, isolated to depressional f		
Shovel test pit dug outside of shallow, inundated		bserved Shallow
restrictive aquitard of rock and clay may be preven		
Testiletive addition of rook and day may be preve	ining lateral groundwater in	iovernent.

	Absolute	Dominant		Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>) 1. <u>N/A</u>		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 2 ((A)
2				Total Number of Dominant Species Across All Strata: 2 (l	(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
6				Prevalence Index worksheet:	
7					
8					
45#		= Total Cov	er er		
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $\frac{35}{9}$ $\times 2 = \frac{70}{9}$	
1. <u>N/A</u>				FAC species $\frac{0}{2}$ $\times 3 = \frac{0}{2}$	
2				FACU species $\frac{0}{a}$ $x = \frac{0}{a}$	
3				UPL species $0 x 5 = 0$	
4				Column Totals: <u>75</u> (A) <u>110</u>	(B)
5				Prevalence Index = B/A = 1.5	
6				Hydrophytic Vegetation Indicators:	
7				✓ 1 - Rapid Test for Hydrophytic Vegetation	
8				✓ 2 - Dominance Test is >50%	
9				✓ 3 - Prevalence Index is ≤3.0¹	
10				4 - Morphological Adaptations ¹ (Provide suppo	ortina
St. J. Co (Di		= Total Cov	er er	data in Remarks or on a separate sheet)	nung
Herb Stratum (Plot size: 5ft) 1 Eleocharis quadrangulata	40	Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)	ļ
· ·			OBL		
2. Juncus effusus		<u>Y</u>	FACW	¹ Indicators of hydric soil and wetland hydrology mu	ıst
3. Bidens frondosa	5	<u>N</u>	FACW	be present, unless disturbed or problematic.	0.
4				Definitions of Four Vegetation Strata:	
5				Tree Woody plants evaluding vines 2 in /7 6 an	~\ ~"
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles	
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	200
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	,55
10				Horte All books assure (non-viscos) vilonte nanonali	
11				Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall.	ess
12					
00%	75	= Total Cov	er er	Woody vine – All woody vines greater than 3.28 ft height.	in
Woody Vine Stratum (Plot size: 30ft)				neight.	
1. <u>N/A</u>					
2					
3					
4				Hardward atte	
5				Hydrophytic Vegetation	
6				Present? Yes No	
		= Total Cov	er er		
Remarks: (Include photo numbers here or on a separate	sheet.)			<u> </u>	
		agototo	المام الم	ow inundated area	
Vegetation plot assessed outside of sp	barsely ve	egetate	u, Shalle	ow, inunuated area.	

SOIL

Sampling Point: Wetland I

inches))-2	Matrix			ox Feature	S		the abse	
)-2	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textu	
	10yr 2/1	100	- 40 0/0				Silty lo	
2-6	10yr 4/2	95	10yr 6/8	5	С	M	Silty cla	ay
			·				-	
	-		<u> </u>					
	-			_				
ype: C=C	oncentration, D=D	epletion, RN	M=Reduced Matrix, M	1S=Masked	d Sand G	rains.	² Location	n: PL=Pore Lining, M=Matrix.
	Indicators:		·					ndicators for Problematic Hydric Soils ³ :
_ Histoso	I (A1)		Dark Surfac	e (S7)			_	2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue B				148) _	Coast Prairie Redox (A16)
	istic (A3)		Thin Dark S			147, 148)		(MLRA 147, 148)
	en Sulfide (A4) d Layers (A5)		Loamy Gley ✓ Depleted Ma		(F2)		-	Piedmont Floodplain Soils (F19) (MLRA 136, 147)
	uck (A10) (LRR N)	1	Redox Dark		- 6)			Red Parent Material (TF2)
	d Below Dark Surf		Depleted Da	•	,		_	Very Shallow Dark Surface (TF12)
	ark Surface (A12)	,	Redox Depr				_	Other (Explain in Remarks)
	Mucky Mineral (S1)) (LRR N,	Iron-Manga		es (F12)	(LRR N,		
	A 147, 148)		MLRA 1			00 400)		3
	Gleyed Matrix (S4) Redox (S5)		Umbric Surf				10\	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
	d Matrix (S6)		Piedmont F	iooupiairi S	olis (F is) (IVILKA 14	ю)	unless disturbed or problematic.
	Layer (if observe	d):					1	unicss distarbed of problematic.
Type: Ro		-,						
Depth (in							Hvdric	Soil Present? Yes No
emarks:							, ,	
hovel t	est nit dua o	utside o	f shallow, inur	ndated :	area			
			trix observed.	idated	arca.			
	on with acpic	Jica IIIa	uix obscived.					
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Attachment to RFI 1-51, Page 092 of 316

Project/Site:Starfire Renewable Power Project	City/County: Talcum, KY / F	Perry County	Sampling Date: 11/6/23	
Project/Site: <u>Starfire Renewable Power Project</u> Applicant/Owner: <u>STMO bn, LLC</u>	, ,	State: KY	Sampling Point: Upland I	
Investigator(s): MB / JK				
Landform (hillslope, terrace, etc.): Terrace Loc			Slone (%): 0	
Landrofff (fillistope, terrace, etc.)	ar relier (coricave, corivex, no	. 127877	Slope (%)	
Subregion (LRR or MLRA): LRR N Lat: 37.402647	Long:	.121011	Datum: 14/1200	
Soil Map Unit Name: FaB—Fairpoint soils, undulating				
Are climatic / hydrologic conditions on the site typical for this time of year				
Are Vegetation, Soil, or Hydrology significantly of	disturbed? Are "Norma	Il Circumstances"	present? Yes ✓ No	
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If needed,	explain any answe	ers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling point location	ons, transects	s, important features, etc.	
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Remarks:	Is the Sampled Area within a Wetland?	Yes		
Survey conducted during the "Wet Season". US and "Incipient drought" for the date of assessm Upland survey point for Wetland I.		ows "Drier th	an Normal" conditions	
HYDROLOGY				
Wetland Hydrology Indicators:			ators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil		
Surface Water (A1) True Aquatic Pla		Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2) — Hydrogen Sulfid Seturation (A2) Oviding Birror		Drainage Pa		
Saturation (A3) Oxidized Rhizos Water Marks (B1) Presence of Rec	spheres on Living Roots (C3)	Moss Trim L	Water Table (C2)	
	duction in Tilled Soils (C6)	Crayfish Bur		
Drift Deposits (B3) Thin Muck Surfa			isible on Aerial Imagery (C9)	
Algal Mat or Crust (B4) Other (Explain in			Stressed Plants (D1)	
Iron Deposits (B5)	,		Position (D2)	
Inundation Visible on Aerial Imagery (B7)		Shallow Aqu		
Water-Stained Leaves (B9)			aphic Relief (D4)	
Aquatic Fauna (B13)		FAC-Neutra	Test (D5)	
Field Observations:				
Surface Water Present? Yes No Depth (inches):	:			
Water Table Present? Yes No ✓ Depth (inches):	:			
Saturation Present? Yes No Depth (inches):	Wetland	Hydrology Prese	nt? Yes No ✓	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo:		ailable:		
	,,			
Remarks:				
Topography not conducive to wetland developr	nent			
Topography hot contactive to wetterna develope	nont.			

00%	Absolute			Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total New horse (De misses)
3				Total Number of Dominant Species Across All Strata: (B)
				Opecies Across Air Strata.
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0 (A/B)
6				Prevalence Index worksheet:
7				
8				Total % Cover of: Multiply by:
		= Total Co	ver	OBL species $\frac{0}{x} \times 1 = \frac{0}{x}$
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$
1. N/A				FAC species $\underline{10}$ $x 3 = \underline{30}$
2				FACU species 90 $x 4 = 360$
3.				UPL species $0 x 5 = 0$
				Column Totals: 100 (A) 390 (B)
4				Goldmin Totals (A) (B)
5				Prevalence Index = $B/A = \frac{3.9}{}$
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
10				
		= Total Co	ver	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5ft)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Lespedeza cuneata	90	Y	FACU	1 Toblematic Hydrophytic Vegetation (Explain)
2. Setaria pumila	10	N	FAC	1
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4.				
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 3.28 ft (1 m) tall.
10				House All books account (account of the property of the proper
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12				
	100	= Total Co	ver	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30ft)				height.
1. N/A				
2				
3.				
4				Hydrophytic
5				Vegetation Present? Yes No
6				Present? Yes No
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate	sheet.)			
Hydrophytic vegetation has not develo	ped in th	e surve	ev area.	
	, , , , , , , , ,		,	

Sampling Point: Upland I

Profile Desc	ription: (Describe	to the dept	h needed to docun	ent the i	ndicator o	r confirm	the abs	ence of indicator	rs.)	
Depth	Matrix		Redo	K Features	3					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textu		Remarks	
0-4	10yr 4/2	90					Sand	w/ gravel	inclusions	
										_
								<u> </u>		
								 -		
¹Type: C=Cc	ncentration D=Der	oletion RM-	Reduced Matrix, MS	-Masked	Sand Gra	ins	² Location	n: PL=Pore Lining	g M-Matrix	
Hydric Soil I		notion, ravi=	readoca Matrix, Me	- Maskea	Ourid Ord			ndicators for Pro		dric Soils ³ :
Histosol			Dark Surface	(97)			_	2 cm Muck (A	_	
	ipedon (A2)		Polyvalue Be		co (S8) (M	I DA 147	148)	Coast Prairie		77)
Black His			Thin Dark Su				140)	(MLRA 147		
	n Sulfide (A4)		Loamy Gleye			11, 140)		Piedmont Flo		(F19)
	Layers (A5)		Depleted Mat				_	(MLRA 136		(1.10)
	ck (A10) (LRR N)		Redox Dark S		6)			Red Parent M		
	Below Dark Surfac	e (A11)	Depleted Dar				_	Very Shallow		(TF12)
	rk Surface (A12)	,	Redox Depre				_	Other (Explain		
	lucky Mineral (S1) (LRR N,	Iron-Mangan			.RR N,	_	_ ` '	,	
	. 147, 148)	,	MLRA 13		, , ,	·				
	leyed Matrix (S4)		Umbric Surfa	•	MLRA 136	5, 122)		³ Indicators of hy	drophytic veg	etation and
	edox (S5)		Piedmont Flo				8)	wetland hydro		
Stripped	Matrix (S6)							unless disturb	ed or problem	natic.
Restrictive L	ayer (if observed)	:								
Type: Ro	ck									
Depth (inc	ches): 4						Hvdric	Soil Present?	Yes	No ✓
Remarks:	,									
	sil haa nat da	volopod	in the survey	oroo						
riyuric sc	ni nas not de	veloped	iii iile suivey	ar c a.						

Attachment to RFI 1-51, Page 095 of 316

Project/Site:Starfire Renewable Power Project City/9	County: Talcum, KY / Perry County Sampling Date: 11/6/23
Applicant/Owner:STMO bn, LLC	County: Talcum, KY / Perry County Sampling Date: 11/6/23 State: KY Sampling Point: Wetland J
MD / II/	tion, Township, Range:
Landform (hillslope, terrace, etc.): Depression Local re	
Subregion (LRR or MLRA): LRR N Lat: 37.402150	Lang: -83.127887 Detum: NAD83
Soil Map Unit Name: FaB—Fairpoint soils, undulating	bong Batum Batum None
	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly distu	
Are Vegetation, Soil, or Hydrology naturally problem	natic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sar	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Survey conducted during the "Wet Season". USAG and "Incipient drought" for the date of assessment	Is the Sampled Area within a Wetland? Yes No CE APT data shows "Drier than Normal" conditions t.
No continuous downstream or upstream connection	
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	
High Water Table (A2) Hydrogen Sulfide Oc	dor (C1)
	eres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (
Algal Mat or Crust (B4) Other (Explain in Re Iron Deposits (B5)	emarks) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Geomorphic Position (D2) 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): _0	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, principle)	revious inspections) if available:
Docombo Necorded Data (erroam gaage, memoring won, acriai priotect, pr	oriodo inopositorio), il avallasto.
Remarks:	
No continuous downstream or upstream connection	on.
Isolated to depressional feature.	
'	

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 x 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

Attachment to RFI 1-51, Page 097 of 316 Wetland J SOIL Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Color (moist) Texture (inches) 90 w/ gravel inclusions 0-10 10yr 5/1 Silty clay ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: ___ 2 cm Muck (A10) (MLRA 147) ___ Histosol (A1) Dark Surface (S7) ___ Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) ___ Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) ___ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) ✓ Depleted Matrix (F3) ___ Stratified Layers (A5) (MLRA 136, 147) __ 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) _ Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, ___ Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) 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, unless disturbed or problematic. Stripped Matrix (S6) Restrictive Layer (if observed): Type: Rock Depth (inches): 10 Hydric Soil Present? Yes Remarks: Hydric soil with depleted matrix observed.

Attachment to RFI 1-51, Page 098 of 316

Project/Site:Starfire Renewable Power Project	ity/County: Talcum, KY / Perry County	Sampling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> Applicant/Owner: <u>STMO bn, LLC</u>	State: KY	Sampling Point: Upland J
Investigator(s): MB / JK		
Landform (hillslope, terrace, etc.): Terrace Loc		Slone (%): 0
Landrofff (fillistope, terrace, etc.)	-83 127978	Slope (%) NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.402265	Long: Long:	Datum: 14 (Doo
Soil Map Unit Name: FaB—Fairpoint soils, undulating		
Are climatic / hydrologic conditions on the site typical for this time of year		
Are Vegetation, Soil, or Hydrology significantly of	isturbed? Are "Normal Circumstance	s" present? Yes <u></u> No
Are Vegetation, Soil, or Hydrology naturally prof	lematic? (If needed, explain any ans	wers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transec	cts, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Remarks:	Is the Sampled Area within a Wetland? Yes	No _✓
Survey conducted during the "Wet Season". US and "Incipient drought" for the date of assessm Upland survey point for Wetland J.		than Normal" conditions
HYDROLOGY		
Wetland Hydrology Indicators:		dicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		Soil Cracks (B6)
Surface Water (A1) True Aquatic Pla	0 1 (01)	Vegetated Concave Surface (B8)
High Water Table (A2) — Hydrogen Sulfid Oviding d Phinos		Patterns (B10)
		n Lines (B16)
		on Water Table (C2) Burrows (C8)
Drift Deposits (B3) Thin Muck Surfa		n Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in		r Stressed Plants (D1)
Iron Deposits (B5)		hic Position (D2)
Inundation Visible on Aerial Imagery (B7)		Aquitard (D3)
Water-Stained Leaves (B9)	Microtopo	ographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neu	tral Test (D5)
Field Observations:		
Surface Water Present? Yes No ✓ Depth (inches):		
Water Table Present? Yes No Depth (inches):		
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Pre	sent? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos	l , previous inspections), if available:	
Remarks:		
Topography not conducive to wetland developr	nent	
Topography hot contactive to westerna developi		

00%	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0	(<i>P</i>
2				Total Novel on of Developed	
3				Total Number of Dominant Species Across All Strata: 2 (E	3)
				opedies Across Air Strata.)
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0	4/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Cov	ver	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2				FACU species 100 $x 4 = 400$	
3.				UPL species $0 x 5 = 0$	
				Column Totals: 100 (A) 400	(B)
4				Column Totals (A)	(D)
5				Prevalence Index = $B/A = \frac{4.0}{}$	
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	
10				4 - Morphological Adaptations ¹ (Provide support	rtina
F#		= Total Cov	ver	data in Remarks or on a separate sheet)	rung
Herb Stratum (Plot size: 5ft)				Problematic Hydrophytic Vegetation ¹ (Explain)	
1. Lespedeza cuneata	90	<u>Y</u>	FACU	residuate riyarepriyae vegetation (Explain)	
2. Schizachyrium scoparium	10	Υ	FACU	1	- 1
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	ST
4					
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	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	ss
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Herb – All herbaceous (non-woody) plants, regardle	
11				of size, and woody plants less than 3.28 ft tall.	ess
12					
	100	= Total Cov	ver	Woody vine – All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 30ft)				height.	
1. N/A					
2					
3.					
4				Hydrophytic	
5				Vegetation Present? Yes No	
6				Present? Yes No _*	
		= Total Cov	ver		
Remarks: (Include photo numbers here or on a separate	sheet.)				
Hydrophytic vegetation has not develo	ped in th	e surve	v area.		
,			,		

Sampling Point: Upland J

Profile Desc	ription: (Describe	to the dept	h needed to docur	nent the i	ndicator o	or confirm	n the abse	nce of indicato	rs.)	
Depth	Matrix			x Features		. 2	_			
(inches)	Color (moist)		Color (moist)	<u></u> %	Type'	Loc ²	Texture		Remarks	
0-6	10yr 3/2	95					Sandy cl	lay w/ gravel	inclusions	
·							-			
	-									
	-									
	-									
							,			
1			Dankara d Maraka MA		010		21 1'	DI Dan Lista	o M. Matela	
Hydric Soil	oncentration, D=Dep	pletion, RIVI=I	Reduced Matrix, Mis	s=iviasked	Sand Gra	iins.		: PL=Pore Linin		
-			Dark Confere	(87)						-
Histosol	(A1) pipedon (A2)		Dark Surface Polyvalue Be	. ,	na (SQ) /M	I DA 447		_ 2 cm Muck (A _ Coast Prairie		
Black Hi			Thin Dark Su				140) _	Coast Plaine (MLRA 14		1
	n Sulfide (A4)		Loamy Gleye			47, 140)		_ Piedmont Flo		(F19)
	Layers (A5)		Depleted Ma	,	,		_	(MLRA 13		(1.10)
	ick (A10) (LRR N)		Redox Dark		6)			_ Red Parent N		
	d Below Dark Surfac	e (A11)	Depleted Dai				_	Very Shallow		
Thick Da	ark Surface (A12)		Redox Depre	ssions (F8	3)		_	_ Other (Explai	n in Remarks	s)
	lucky Mineral (S1) (LRR N,	Iron-Mangan	ese Masse	es (F12) (I	RR N,				
	A 147, 148)		MLRA 13	•				_		
	lleyed Matrix (S4)		Umbric Surfa					³ Indicators of hy		-
	edox (S5)		Piedmont Flo	odplain S	oils (F19)	(MLRA 14	18)	wetland hydro		
	Matrix (S6)							unless disturb	ped or proble	matic.
	_ayer (if observed)	:								
Type: Ro										,
Depth (inc	ches): ^b		<u></u>				Hydric	Soil Present?	Yes	No
Remarks:										
Hydric so	oil has not de	veloped	in the survey	area.						

Attachment to RFI 1-51, Page 101 of 316

Project/Site:Starfire Renewable Power Project City	/County: Talcum, KY / Perry Cou	inty Sampling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> City Applicant/Owner: <u>STMO bn, LLC</u>	State:	KY Sampling Point: Wetland K
MD / II/	ction, Township, Range:	
Landform (hillslope, terrace, etc.): Depression Local r		
Subregion (LRR or MLRA): LRR N Lat: 37.401845	-83.124127	Slope (76)
Soil Map Unit Name: FaB—Fairpoint soils, undulating	Long.	Datum None
Are climatic / hydrologic conditions on the site typical for this time of year?		,
Are Vegetation, Soil, or Hydrology significantly dist		
Are Vegetation, Soil, or Hydrology naturally problem	natic? (If needed, explain any	y answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, trar	nsects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes		s No
Survey conducted during the "Wet Season". USA and "Incipient drought" for the date of assessmer No continuous downstream or upstream connections.	nt.	ier than Normal" conditions
HYDROLOGY		
Wetland Hydrology Indicators:		ry Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		ace Soil Cracks (B6)
✓ Surface Water (A1) True Aquatic Plants		rsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide C Saturation (A3) Oxidized Rhizosphe		nage Patterns (B10) s Trim Lines (B16)
Water Marks (B1) Presence of Reduc		Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction		rfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface		ration Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in R	emarks) Stun	ted or Stressed Plants (D1)
Iron Deposits (B5)	_✓ Geor	morphic Position (D2)
Inundation Visible on Aerial Imagery (B7)		low Aquitard (D3)
Water-Stained Leaves (B9)		otopographic Relief (D4)
Aquatic Fauna (B13)		-Neutral Test (D5)
Field Observations: Surface Water Present? Yes ✓ No Depth (inches): 0		
Water Table Present? Yes No Depth (inches):		
Saturation Present? Yes No Depth (inches): _0	Watland Hydrology	Present? Yes No
(includes capillary fringe)		Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:	
C9: See aerial maps		
Remarks:		
No continuous downstream or upstream connecti	on.	
Isolated to depressional feature.		
Raised gravel road bed, to the south, impounds of	lownstream connection.	

Sampling Point: Wetland K

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 x 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

SOIL

Sampling Point: Wetland K

Depth (i.e.al.a.a.)	Matrix	%	Redox Features	T	December 1
(inches) 0-2	Color (moist) 10yr 4/4	100	Color (moist) % Type ¹ Loc ²	Text Clay	ure Remarks
	· 				
2-12	10yr 5/1	100		Clay	
	- <u>-</u>				
				-	
					
	· -				
	<u> </u>				
				-	
	`anaontration D. D	Nonletien DM	Deduced Matrix MC Marked Cond Crains	21 cootie	on Di Dovo Lining M Motriy
	Indicators:	repletion, Rivi	=Reduced Matrix, MS=Masked Sand Grains.	Locatio	on: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
_ Histosol			Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Below Surface (S8) (MLRA 147,	148)	Coast Prairie Redox (A16)
	listic (A3)		Thin Dark Surface (S9) (MLRA 147, 148)	1.0,	(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19)
	ed Layers (A5)		✓ Depleted Matrix (F3)		(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark Surface (F6)		Red Parent Material (TF2)
	ed Below Dark Surf	face (A11)	Depleted Dark Surface (F7)		Very Shallow Dark Surface (TF12)
	Park Surface (A12)	\	Redox Depressions (F8)		Other (Explain in Remarks)
	Mucky Mineral (S1) A 147, 148)) (LRR N,	Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
	Gleyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Floodplain Soils (F19) (MLRA 14	18)	wetland hydrology must be present,
34HUV F					menana nyarenegy maer ze precent,
					unless disturbed or problematic.
_ Stripped	d Matrix (S6) Layer (if observe	d):			unless disturbed or problematic.
_ Stripped	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type:	d Matrix (S6) Layer (if observe				
_ Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observe				
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
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_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
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_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observe				
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				
Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observe				
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				

Attachment to RFI 1-51, Page 104 of 316

Project/Site:Starfire Renewable Power Project	City/County: Talcum, KY / F	Perry County	Sampling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> Applicant/Owner: <u>STMO bn, LLC</u>	, ,	State: KY	Sampling Point: Upland K
Investigator(s): MB / JK			
Landform (hillslope, terrace, etc.): Terrace Loc			Slana (%): 0
Landrofff (fillistope, terrace, etc.) Loc	ar relier (concave, convex, no	124062	Slope (%)
Subregion (LRR or MLRA): LRR N Lat: 37.401973 Soil Map Unit Name: FaB—Fairpoint soils, undulating	Long:	.124002	Datum: 14/1200
Are climatic / hydrologic conditions on the site typical for this time of year			
Are Vegetation, Soil, or Hydrology significantly of	disturbed? Are "Norma	I Circumstances" p	oresent? Yes <u>✓</u> No
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If needed,	explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point location	ons, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Remarks:	Is the Sampled Area within a Wetland?	Yes	
Survey conducted during the "Wet Season". US and "Incipient drought" for the date of assessm Upland survey point for Wetland K.		ws "Drier th	an Normal" conditions
HYDROLOGY			
Wetland Hydrology Indicators:			ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil	
Surface Water (A1) True Aquatic Pla			getated Concave Surface (B8)
High Water Table (A2) — Hydrogen Sulfid		Drainage Pa	
	spheres on Living Roots (C3)	Moss Trim L	
	duction in Tilled Soils (C6)	Crayfish Bur	Water Table (C2)
Drift Deposits (B3) Thin Muck Surfa			isible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in			tressed Plants (D1)
Iron Deposits (B5)	,		Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aqu	
Water-Stained Leaves (B9)		Microtopogra	
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):	Wetland I	Hydrology Preser	nt? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo:	s. previous inspections), if av	ailable:	
3 · , · · · · · · · · · · · · · · · · ·	.,,		
Remarks:			
Topography not conducive to wetland developr	nent		
Topography hot contactive to wetterna develope	nont.		

Sampling Point: Upland K

00%	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Deminent	
3				Total Number of Dominant Species Across All Strata: 1 (B)
4.				(_,
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0	A/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Cove	r	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species	
3				UPL species $0 \times 5 = 0$	
				400 400	(D)
4				Column Totals: 100 (A) 400	(D)
5				Prevalence Index = B/A = 4.0	
6			-		
7				Hydrophytic Vegetation Indicators:	
8				1 - Rapid Test for Hydrophytic Vegetation	
9.				2 - Dominance Test is >50%	
				3 - Prevalence Index is ≤3.0 ¹	
10				4 - Morphological Adaptations ¹ (Provide suppo	orting
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	ŭ
1 Lespedeza cuneata	100	Y I	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
···					
2				¹ Indicators of hydric soil and wetland hydrology mu	.ot
3			-	be present, unless disturbed or problematic.	151
4				Definitions of Four Vegetation Strata:	
5.				Definitions of Four Vegetation Strata:	
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	n) or
6				more in diameter at breast height (DBH), regardles	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	225
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall.	less
12.	_			of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove	-	Woody vine - All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate			-		
Hydrophytic vegetation has not develop	ped in th	ie survey	area.		

Sampling Point: Upland K

Depth Matrix Redox Features Texture Remarks
1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1 Hydric Soil Indicators: 1 Histosol (A1) 1 Histosol (A2) 2 cm Muck (A10) (MLRA 147) 3 lack Surface (S7) 4 listic Epipedon (A2) 5 lack Histic (A3) 7 hin Dark Surface (S9) (MLRA 147, 148) 7 Hydrogen Sulfide (A4) 8 Stratified Layers (A5) 9 cm Muck (A10) (LRR N) 10 constraine Redox (A16) 11 constraine Redox (A16) 12 cm Muck (A10) (MLRA 147) 13 cm Muck (A10) (LRR N) 14 cm Muck (A10) (LRR N) 15 peleted Below Dark Surface (F6) 16 peleted Below Dark Surface (A11) 17 pepleted Dark Surface (F6) 28 cm Muck (A10) (LRR N) 29 peleted Dark Surface (F6) 29 peleted Dark Surface (A11) 20 peleted Dark Surface (F6) 30 peleted Dark Surface (A12) 40 peleted Dark Surface (F6) 51 peleted Dark Surface (F6) 52 peleted Dark Surface (A12) 53 peleted Dark Surface (F6) 54 peleted Dark Surface (F6) 55 peleted Dark Surface (F6) 56 peleted Dark Surface (F6) 57 peleted Dark Surface (F6) 58 peleted Dark Surface (F6) 59 peleted Dark Surface (F6) 50 peleted Dark Surface (F6) 50 peleted Dark Surface (F6) 50 peleted Dark Surface (F6) 51 peleted Dark Surface (F6) 52 peleted Dark Surface (F6) 53 peleted Dark Surface (F6) 54 pere Lining, M=Matrix. 16 pere Lining,
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Minral (S1) (LRR N, MLRA 136) MLRA 136) MLRA 136)
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2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N,
Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136)
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136)
MLRA 147, 148) MLRA 136)
Sandy Glaved Matrix (SA) Umbric Surface (E13) (MI DA 436 432) 3 Indicators of hydrophytic vesetation and
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present,
Stripped Matrix (S6) unless disturbed or problematic.
Restrictive Layer (if observed):
Type: Rock
Depth (inches): 10 Hydric Soil Present? Yes No ✓
Remarks:
Hydric soil has not developed in the survey area.
Tryuno son has not developed in the survey area.

Attachment to RFI 1-51, Page 107 of 316

Project/Site:Starfire Renewable Power Project City/C	ounty: Talcum, KY / Knott County Samp	ling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY San	npling Point: Wetland L
MD / II/	on, Township, Range:	.pg : c
Landform (hillslope, terrace, etc.): Depression Local reli		Slope (%): 0-2
Landionn (nilisiope, terrace, etc.) Local reli	-83 123059	Slope (%)
Subregion (LRR or MLRA): LRR N Lat: 37.403000 Soil Map Unit Name: FbD—Fairpoint and Bethesda soils, 0 to 20 percentage.	Long:Long:	Datum: TV 1000
Are climatic / hydrologic conditions on the site typical for this time of year? Y		,
Are Vegetation, Soil, or Hydrology significantly disturb	ped? Are "Normal Circumstances" present?	? Yes <u> </u>
Are Vegetation, Soil, or Hydrology naturally problems	atic? (If needed, explain any answers in Re	emarks.)
SUMMARY OF FINDINGS - Attach site map showing sam	ipling point locations, transects, impe	ortant features, etc.
Hydrophytic Vegetation Present? Yes/	Is the Sampled Area within a Wetland? Yes No	>
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. No continuous downstream or upstream connectio		ormal" conditions
HYDROLOGY Westernal Mandre Lawrence Indicateurs	Consorter to disease (as	::::::::::::::::::::::::::::::::::::::
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (m	
	Surface Soil Cracks B14) Sparsely Vegetated	
Surface Water (A1) True Aquatic Plants (High Water Table (A2) Hydrogen Sulfide Ode		
✓ Saturation (A3) — Oxidized Rhizosphere		
Water Marks (B1) Presence of Reduced		
Sediment Deposits (B2) Recent Iron Reductio		
Drift Deposits (B3) Thin Muck Surface (C		n Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Ren	narks) Stunted or Stressed	Plants (D1)
Iron Deposits (B5)	✓ Geomorphic Position	n (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D	
Water-Stained Leaves (B9)	Microtopographic Re	
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D)5)
Field Observations:		
Surface Water Present? Yes No / Depth (inches):		
Water Table Present? Yes No V Depth (inches):		√
Saturation Present? Yes No Depth (inches): 0 (includes capillary fringe)	Wetland Hydrology Present? Ye	es No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:	
C9: See aerial maps		
Remarks:		
No continuous downstream or upstream connectio	n.	
Isolated to depressional feature.		
'		

20ft	Absolute	Dominant		Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>) 1. <u>N/A</u>		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A	۹)
2				Total Number of Dominant Species Across All Strata: 1 (E	3)
4				Demonst of Deminerat Consider	
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A	4/B)
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
8				OBL species 100 x 1 = 100	
Sapling/Shrub Stratum (Plot size: 15ft)		= Total Cov	/er	FACW species 10 $x 2 = 20$	
. N/Λ				FAC species $0 \times 3 = 0$	
				FACU species $0 \times 4 = 0$	
2				UPL species 0 x 5 = 0	
3					(D)
4				Column Totals: <u>110</u> (A) <u>120</u>	(B)
5				Prevalence Index = $B/A = 1.1$	
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	
10				4 - Morphological Adaptations¹ (Provide suppor	rtina
Harb Chrotines (Diet sines 5ft		= Total Cov	/er	data in Remarks or on a separate sheet)	9
Herb Stratum (Plot size: 5ft) 1 Typha angustifolia	100	Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)	
11	100	N			
2. Juncus effusus			FACW	¹ Indicators of hydric soil and wetland hydrology mus	st
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 more in diameter at breast height (DBH), regardless	
7				height.	5 01
8.					
9.				Sapling/Shrub – Woody plants, excluding vines, le than 3 in. DBH and greater than 3.28 ft (1 m) tall.	SS
10				than 3 in. DBH and greater than 3.20 ft (1 iii) tail.	
11				Herb - All herbaceous (non-woody) plants, regardle	ess
				of size, and woody plants less than 3.28 ft tall.	
12	110	Total Car		Woody vine – All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 30ft)		= Total Cov	/er	height.	
1. N/A					
2					
3					
4				Hydrophytic	
5				Vegetation Present? Yes No	
6				Present? Yes No	
		= Total Cov	/er		
Remarks: (Include photo numbers here or on a separate	sheet.)				
Hydrophytic vegetation has developed	l in surve	v area.			
Try arophysio vogotation had developed	i iii odi vo	y arou.			

SOIL

Sampling Point: Wetland L

Depth	Matrix	%	Redox Features	T	na Damania
(inches) 0-2	Color (moist) 10yr 4/4	100	Color (moist) % Type ¹ Loc ²	Textu Sandy of	
2-12	10yr 5/1	100		Clay	
	· -		·	-	
	-			-	
	<u> </u>				
	<u>-</u> , -			-	
	<u> </u>				
	<u> </u>				
vpe: C=C	Concentration. D=D	epletion. RM:	=Reduced Matrix, MS=Masked Sand Grains.	² Location	n: PL=Pore Lining, M=Matrix.
	Indicators:		,	ı	ndicators for Problematic Hydric Soils ³ :
_ Histoso	ol (A1)		Dark Surface (S7)	_	2 cm Muck (A10) (MLRA 147)
_ Histic E	pipedon (A2)		Polyvalue Below Surface (S8) (MLRA 147,	148) _	Coast Prairie Redox (A16)
	Histic (A3)		Thin Dark Surface (S9) (MLRA 147, 148)		(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	_	Piedmont Floodplain Soils (F19)
	ed Layers (A5)		✓ Depleted Matrix (F3)		(MLRA 136, 147)
	luck (A10) (LRR N)		Redox Dark Surface (F6) Depleted Dark Surface (F7)	=	Red Parent Material (TF2)Very Shallow Dark Surface (TF12)
	ed Below Dark Surf Dark Surface (A12)	ace (ATT)	Redox Depressions (F8)	-	Other (Explain in Remarks)
	Mucky Mineral (S1)) (LRR N.	Iron-Manganese Masses (F12) (LRR N,	=	Other (Explain in Remarks)
	A 147, 148)	, (=::::,	MLRA 136)		
	Gleyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and
			Diadmont Floodalain Caile (F10) (MLDA 44	101	atlanad burdualani rasuat banananat
_ sandy i	Redox (S5)		Piedmont Floodplain Soils (F19) (MLRA 14	ю)	wetland hydrology must be present,
_ Stripped	d Matrix (S6)		Pleamont Ploodplain Soils (F19) (MLKA 14	10)	unless disturbed or problematic.
_ Stripped		d):	Pleamont Floodplain Solis (F19) (MLKA 14		
_ Stripped	d Matrix (S6) Layer (if observe				
Stripped estrictive Type:	d Matrix (S6) Layer (if observe				
_ Stripped estrictive Type: Depth (in	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
Stripped Restrictive Type: Depth (independent)	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.
_ Stripped estrictive Type: Depth (in emarks:	d Matrix (S6) Layer (if observe				unless disturbed or problematic.

Attachment to RFI 1-51, Page 110 of 316

Project/Site:Starfire Renewable Power Project	City/County: Talcu	m, KY / Perry County	Sampling Date: 11/6/23		
Project/Site: Starfire Renewable Power Project Applicant/Owner: STMO bn, LLC	, ,	State: KY	Sampling Point: Upland L		
Investigator(s): MB / JK			campung r cum		
Landform (hillslope, terrace, etc.): Terrace			Slone (%): 0		
Landrotti (fillisiope, terrace, etc.)	al relier (concave, c	-83 123056	Slope (%) NAD83		
Subregion (LRR or MLRA): LRR N Lat: 37.402988 Soil Map Unit Name: FaB—Fairpoint soils, undulating	l	Long:	Datum: 14 (Doo		
		NWI classif			
Are climatic / hydrologic conditions on the site typical for this time of year					
Are Vegetation, Soil, or Hydrology significantly	disturbed? A	re "Normal Circumstances"	'present? Yes <u>√</u> No		
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (I	f needed, explain any answ	vers in Remarks.)		
SUMMARY OF FINDINGS - Attach site map showing	sampling poin	t locations, transect	s, important features, etc.		
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes No _ Yes No _ Remarks:	Is the Samp within a We		No		
Survey conducted during the "Wet Season". US and "Incipient drought" for the date of assessm Upland survey point for Wetland L.		ata shows "Drier tl	nan Normal" conditions		
HYDROLOGY					
Wetland Hydrology Indicators:			cators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that apply)		Surface So			
Surface Water (A1) True Aquatic Pl			Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2) — Hydrogen Sulfic			Patterns (B10)		
Saturation (A3) Oxidized Rhizos Water Marks (B1) Presence of Re			Lines (B16) n Water Table (C2)		
Sediment Deposits (B2) Recent Iron Iron Iron Iron Iron Iron Iron Iron			urrows (C8)		
Drift Deposits (B3) Thin Muck Surfa			Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Other (Explain i			Stressed Plants (D1)		
Iron Deposits (B5)	,		c Position (D2)		
Inundation Visible on Aerial Imagery (B7)		Shallow Aq			
Water-Stained Leaves (B9)			raphic Relief (D4)		
Aquatic Fauna (B13)		FAC-Neutra	al Test (D5)		
Field Observations:					
Surface Water Present? Yes No Depth (inches)	ı:				
Water Table Present? Yes No ✓ Depth (inches)	ı:				
Saturation Present? Yes No✓ Depth (inches)	i:	Wetland Hydrology Prese	ent? Yes No		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	s. previous inspecti	ons), if available:			
33.,	.,,	,,			
Remarks:					
Topography not conducive to wetland develop	ment				
Topography not contactive to wettand develop	nont.				

00%	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Deminent	
3				Total Number of Dominant Species Across All Strata: 1 (B)
4.				(_,
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0	A/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Cove	r	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species	
3				UPL species $0 \times 5 = 0$	
				400 400	(D)
4				Column Totals: 100 (A) 400	(D)
5				Prevalence Index = B/A = 4.0	
6			-		
7				Hydrophytic Vegetation Indicators:	
8				1 - Rapid Test for Hydrophytic Vegetation	
9.				2 - Dominance Test is >50%	
				3 - Prevalence Index is ≤3.0 ¹	
10				4 - Morphological Adaptations ¹ (Provide suppo	orting
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	ŭ
1 Lespedeza cuneata	100	Y I	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
···					
2				¹ Indicators of hydric soil and wetland hydrology mu	.ot
3				be present, unless disturbed or problematic.	151
4				Definitions of Four Vegetation Strata:	
5.				Definitions of Four Vegetation Strata:	
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	n) or
6				more in diameter at breast height (DBH), regardles	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	225
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall.	less
12.	_			of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove	-	Woody vine - All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate			-		
Hydrophytic vegetation has not develop	ped in th	ie survey	area.		

Sampling Point: Upland L SOIL

Profile Desc	ription: (Describe	to the depth	n needed to docum	nent the in	dicator o	r confirm	the abs	sence of ind	icators.)		
Depth	Matrix			x Features							
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Textu			arks	
0-10	10yr 4/2	95					Sandy	clay w/ gi	ravel inclusi	ions	
		· · · · · · · · · · · · · · · · · · ·									
											_
											_
							-				
¹ Type: C=Co	oncentration, D=Dep	letion, RM=F	Reduced Matrix, MS	S=Masked	Sand Grai	ns.	² Locatio	n: PL=Pore	Lining, M=M	atrix.	
Hydric Soil I			,			-			or Problema		ric Soils³:
Histosol	(A1)		Dark Surface	(S7)				2 cm Mu	ıck (A10) (MI	-RA 147)
	pipedon (A2)		Polyvalue Be		e (S8) (M I	RA 147.	148)		rairie Redox		<i>'</i>
Black Hi			Thin Dark Su				,		A 147, 148)	(,,,,,	
	n Sulfide (A4)		Loamy Gleye	, ,	•	,,			nt Floodplain	Soils (F	19)
	Layers (A5)		Depleted Mat		_,				A 136, 147)	(,
	ick (A10) (LRR N)		Redox Dark S		S)				ent Material	(TF2)	
	d Below Dark Surfac	e (A11)	Depleted Dar						allow Dark S		F12)
	ark Surface (A12)	, ,	Redox Depre						xplain in Rer		,
Sandy M	lucky Mineral (S1) (I	LRR N,	Iron-Mangan	ese Masse	s (F12) (L	RR N,					
	147, 148)		MLRA 13								
Sandy G	lleyed Matrix (S4)		Umbric Surfa	ce (F13) (N	/ILRA 136	, 122)		³ Indicators	of hydrophyt	ic veget	ation and
	edox (S5)		Piedmont Flo	odplain So	ils (F19) (I	MLRA 14	l8)	wetland	hydrology m	ust be pr	esent,
Stripped	Matrix (S6)							unless o	listurbed or p	roblema	tic.
Restrictive I	_ayer (if observed):										
Type: Ro	ck										
Depth (inc	ches): 10						Hydri	c Soil Prese	nt? Yes_		No <u> </u>
Remarks:											
	oil has not dev	i banalay	in the curvey	area							
riyuno se	on rias riot act	veloped	iii tiic suivey	arca.							

Attachment to RFI 1-51, Page 113 of 316

alcum, KY / Knott County Sampling Date: 11/7/23
State: KY Sampling Point: Wetland M
ship, Range:
ive, convex, none): Concave Slope (%): 0-2
Long: -83.120417 Datum: NAD83
pes, stony NWI classification: None
No (If no, explain in Remarks.) Are "Normal Circumstances" present? Yes No
(If needed, explain any answers in Remarks.)
point locations, transects, important features, etc.
ampled Area a Wetland? Yes No shows "Drier than Normal" conditions and ad impounds downstream connection. No
Secondary Indicators (minimum of two required)
Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) ng Roots (C3) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
— Wetland Hydrology Present? Yes No Dections), if available:

Sampling Point: Wetland M

- 20ft	Absolute	Dominant		Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30ft) 1. Platanus occidentalis	<u>% Cover</u> 80	Species? Y	Status FACW	Number of Dominant Species 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 (A.	/B)
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
o	00	= Total Cov	er	OBL species 0 x 1 = 0	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species 80 $\times 2 = 160$	
1. Elaeagnus umbellata	10	Υ	UPL	FAC species $0 \times 3 = 0$	
2				FACU species $\frac{10}{0}$ $x = 40$	
3				OPL species X 5 = -	
4				Column Totals: 90 (A) 200 (I	(B)
5				Prevalence Index = B/A = $\frac{2.2}{}$	
6				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				3 - Prevalence Index is ≤3.0¹	
	40	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet)	ting
Herb Stratum (Plot size: 5ft)				Problematic Hydrophytic Vegetation (Explain)	
1. <u>N/A</u>					
2				¹ Indicators of hydric soil and wetland hydrology mus	it
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.	
9.				Sapling/Shrub – Woody plants, excluding vines, les than 3 in. DBH and greater than 3.28 ft (1 m) tall.	SS
10.					
11				Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall.	SS
12.	_				
204		= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in height.	n
Woody Vine Stratum (Plot size: 30ft)					
1. N/A					
2					
3					
5.				Hydrophytic	
6.				Vegetation Present? Yes No	
		= Total Cov			
Remarks: (Include photo numbers here or on a separate				1	
Hydrophytic vegetation has developed		v area			
Elaeagnus umbellata (Autumn olive) in		•	ead		
Elabaghab ambahata (Atatahin birvo) in	aroa ay	ing or a	ouu.		
					ļ

Attachment to RFI 1-51, Page 115 of 316 SOIL

Sampling Point: Wetland M

Profile Desc	ription: (Describe	to the de	oth needed to docu	ment the	indicator	or confirm	the abser	nce of indicators.)		
Depth	Matrix		Red	ox Feature	S					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rei	marks	
0-5	10yr 4/1	95	10yr 4/6	5	С	М	Clay	<u> </u>		
5-12	10yr 3/1	100					Sandy cla	<u> </u>		
				- ·				<u> </u>		
		- ——				<u> </u>		_		
	-									
							-	_		
					· 			_ -		
						·				_
					· 			_		
		letion, RN	I=Reduced Matrix, M	IS=Masked	d Sand G	rains.		PL=Pore Lining, M=N		
Hydric Soil I	ndicators:						Inc	dicators for Problem	atic Hyd	ric Soils³:
Histosol	(A1)		Dark Surfac	e (S7)			_	2 cm Muck (A10) (N	ILRA 147	7)
Histic Ep	pipedon (A2)		Polyvalue B	elow Surfa	ice (S8) (I	MLRA 147,	148)	Coast Prairie Redox	x (A16)	
Black His	stic (A3)		Thin Dark S	urface (S9) (MLRA	147, 148)		(MLRA 147, 148))	
	n Sulfide (A4)		Loamy Gley		(F2)		_	Piedmont Floodplain		19)
	Layers (A5)		✓ Depleted Ma					(MLRA 136, 147)		
	ick (A10) (LRR N)		Redox Dark	,	,			Red Parent Materia		
	Below Dark Surfac	e (A11)	Depleted Da				_	Very Shallow Dark		TF12)
	ark Surface (A12)		Redox Depr					Other (Explain in Re	emarks)	
	lucky Mineral (S1) (I	_RR N,	Iron-Mangai		es (F12)	(LRR N,				
	147, 148)		MLRA 1		(MI DA 4)	00 400\	3			
	edox (S5)		Umbric Surf Piedmont FI					Indicators of hydrophy	-	
	Matrix (S6)		Pleamont Fi	oodplain s	oolis (F 19) (IVILKA 14	ю)	wetland hydrology nunless disturbed or		
	_ayer (if observed):							uniess disturbed of	problema	ilic.
Type: Ro		•								
									./	
Depth (inc	ches): 12						Hydric S	Soil Present? Yes		No
Remarks:										
Hydric so	oil with deplet	ed mat	rix observed.							
-	·									

Attachment to RFI 1-51, Page 116 of 316

Project/Site:Starfire Renewable Power Project City/C	ounty: Talcum, KY / Knott County Sampling Date: 11/7/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Upland M
Investigator(s): MB / JK Section	
Landform (hillslope, terrace, etc.): Hillslope Local reli	
Subregion (LRR or MLRA): LRR N Lat: 37.412647	
Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percentage of the soil of the	ent slopes stony
•	
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly disturb	ped? Are "Normal Circumstances" present? Yes <u>▼</u> No
Are Vegetation, Soil, or Hydrology naturally problems	tic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing same	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Remarks:	Is the Sampled Area within a Wetland? Yes No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. Upland survey point for Wetland M. 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 (I	
High Water Table (A2) Hydrogen Sulfide Odd	
Saturation (A3) Oxidized Rhizosphere	
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reductio	
Drift Deposits (B3) Thin Muck Surface (C Algal Mat or Crust (B4) Other (Explain in Ren	
Algal Mat or Crust (B4) Other (Explain in Ren Iron Deposits (B5)	narks) Stunted or Stressed Plants (D1) 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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	
Topography not conducive to wetland developmen	t.

000	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30ft)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total Nevel on of Danisant	
3.				Total Number of Dominant Species Across All Strata: 2 (B	١
				Species / toross / tir otrata.	<i>'</i>
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0 (A	/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Cov	er	OBL species $\frac{0}{2}$ $\times 1 = \frac{0}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. Elaeagnus umbellata	100	Υ	UPL	FAC species $0 x 3 = 0$	
2				FACU species 10 x 4 = 40	
3.				UPL species 100 x 5 = 500	
				Column Totals: 110 (A) 540 (I	B)
4				Column Totals (A)	, I
5				Prevalence Index = $B/A = 4.9$	
6				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
8				2 - Dominance Test is >50%	
9					
10				3 - Prevalence Index is ≤3.0¹	.
	400	= Total Cov	er	 4 - Morphological Adaptations¹ (Provide support data in Remarks or on a separate sheet) 	ting
Herb Stratum (Plot size: 5ft)					
1. Rosa multiflora	10	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
2					
3.				¹ Indicators of hydric soil and wetland hydrology musi	t
				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	
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, les	:0
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall.	SS
12.				of size, and woody plants less than 5.20 it tall.	
	10	= Total Cov	er	Woody vine - All woody vines greater than 3.28 ft in	n
Woody Vine Stratum (Plot size: 30ft)		_ 10tai 001	0.	height.	
1. N/A					
2.					
3					
4				Hydrophytic	
5				Vegetation Present? Yes No	
6				Present? Yes No	
		= Total Cov	er		
Remarks: (Include photo numbers here or on a separate	sheet.)				
Hydrophytic vegetation has not develop	ned in th	e surve	v area		
Try drop Try tro vogotation Trao Trot do voro	904 III III	o oarvo	y arou.		

Sampling Point: Upland M

SOIL

Profile Desc	ription: (Describe	to the depth	needed to docum	ionit tino mandatoi	or commi	the absen	ce or mulcato	,	
Depth	Matrix		Redox	c Features					
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Type ¹	Loc ²	Texture		Remarks	
0-4	10yr 3/2	100				Sandy cla	y		
4-12	10yr 5/4	100				Sand	_		
	1011 0/ 1					-	_		
							_		
									_
							_		
	-								
	oncentration, D=Dep	pletion, RM=Re	educed Matrix, MS	=Masked Sand G	rains.		PL=Pore Linin		3
Hydric Soil	Indicators:					Ind	icators for Pr	oblematic Hy	dric Soils ³ :
Histosol	(A1)		Dark Surface	(S7)			2 cm Muck (A	10) (MLRA 1 4	47)
Histic Ep	oipedon (A2)		Polyvalue Bel	low Surface (S8) (MLRA 147,	148)	Coast Prairie	Redox (A16)	
Black Hi	stic (A3)		Thin Dark Sur	rface (S9) (MLRA	147, 148)		(MLRA 14	7, 148)	
Hydroge	n Sulfide (A4)		Loamy Gleye				Piedmont Flo	odplain Soils ((F19)
	Layers (A5)		Depleted Mat				(MLRA 13		
2 cm Mu	ick (A10) (LRR N)		Redox Dark S	Surface (F6)			Red Parent N	Material (TF2)	
Depleted	d Below Dark Surface	ce (A11)	Depleted Darl	k Surface (F7)			Very Shallow	Dark Surface	(TF12)
	ark Surface (A12)		Redox Depres					n in Remarks)	
Sandy M	lucky Mineral (S1) (LRR N,	Iron-Mangane	ese Masses (F12)	(LRR N,				
	A 147, 148)		MLRA 136						
Sandy G	Bleyed Matrix (S4)		Umbric Surfac	ce (F13) (MLRA 1	36, 122)	³	ndicators of hy	drophytic veg	etation and
	tedox (S5)			odplain Soils (F19				ology must be	
	Matrix (S6)				, ,	•		bed or problem	
Kestrictive	_aver (if observed)):							
	_ayer (if observed) ck):							
Type: Ro	ck) :	_			Unadai a C	-ii Duanaut?	Vas	No. V
Type: Ro	ck): 	_ 			Hydric S	oil Present?	Yes	No <u></u> ✓
Type: Ro	ck		<u> </u>			Hydric S	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No
Type: Ro Depth (inc	ck		the survey	area.		Hydric S	oil Present?	Yes	No
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No <u></u> ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No <u></u> ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No <u>√</u>
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No <u>√</u>
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No <u>√</u>
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No <u>√</u>
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No <u>√</u>
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No <u>√</u>
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No <u>√</u>
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No <u>√</u>
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric So	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric So	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric So	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric So	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric So	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric Se	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	oil Present?	Yes	No ✓
Type: Ro Depth (inc	ck ches): 12		the survey	area.		Hydric S	pil Present?	Yes	No ✓

Attachment to RFI 1-51, Page 119 of 316

Project/Site:Starfire Renewable Power Project City,	County: Talcum, KY / Knott County Sampling Date: 11/7/23	
Project/Site: <u>Starfire Renewable Power Project</u> City/Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Wetlar	nd N
MD / UZ	tion, Township, Range:	
Landform (hillslope, terrace, etc.): Depression Local re		2
Subregion (LRR or MLRA): LRR N Lat: 37.41579	Long: -83.11855 Detum: NAD8	3
Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 pe	rcent slopes stony	
Are climatic / hydrologic conditions on the site typical for this time of year?		
Are Vegetation, Soil, or Hydrologysignificantly distr		
Are Vegetation, Soil, or Hydrology naturally problem	natic? (If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features,	etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Survey conducted during the "Wet Season". USA		ons
and "Incipient drought" for the date of assessmen No continuous downstream or upstream connection		
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two require	ed)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)	
Surface Water (A1) True Aquatic Plants		8)
High Water Table (A2) Hydrogen Sulfide O		
✓ Saturation (A3) Oxidized Rhizosphe Water Marks (B1) Presence of Reduce	eres on Living Roots (C3) Moss Trim Lines (B16) ed Iron (C4) Dry-Season Water Table (C2)	
Valer Maris (B1) Presence of Reduct Sediment Deposits (B2) Recent Iron Reduct		
Drift Deposits (B3) Thin Muck Surface)
Algal Mat or Crust (B4) Other (Explain in Re		
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):		
Saturation Present? Yes <u>√</u> No Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes No	_
Describe Recorded Data (stream gauge, monitoring well, aerial photos, page 1975)	evious inspections), if available:	
Deviced		
Remarks:		
No continuous downstream or upstream connecti	on.	
Isolated to depressional feature.		

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 \times 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

SOIL

Sampling Point: Wetland N

pge: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. The Concentration of Concen		Matrix Color (moist)	%	Redo: Color (moist)	x Features % Type ¹	Loc ²	Texture	Remarks
rge: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 2 Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils³: Indicators for Problematic Hydric Soils³: Histosol (A1)				Color (molety	70 Type			
dric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Thic Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sundy Gleyed Matrix (S6) Sandy Redox (S5) Depleted Matrix (S6) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sericitive Layer (if observed): Type: Rock Depth (inches): 12 Mark 3 Surface (S7) Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Loarny Gleyed Matrix (S6) Dark Surface (S9) (MLRA 147, 148) Loarny Gleyed Matrix (F2) Depleted Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Brok Depth (inches): 12 Hydric Soil Present? Yes ✓ No		1 0/1					Only oldy	w graver meraelene
dric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Thic Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sundy Gleyed Matrix (S6) Sandy Redox (S5) Depleted Matrix (S6) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sericitive Layer (if observed): Type: Rock Depth (inches): 12 Mark 3 Surface (S7) Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Loarny Gleyed Matrix (S6) Dark Surface (S9) (MLRA 147, 148) Loarny Gleyed Matrix (F2) Depleted Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Brok Depth (inches): 12 Hydric Soil Present? Yes ✓ No					· 			
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dric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Thic Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sundy Gleyed Matrix (S6) Sandy Redox (S5) Depleted Matrix (S6) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sericitive Layer (if observed): Type: Rock Depth (inches): 12 Mark 3 Surface (S7) Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Loarny Gleyed Matrix (S6) Dark Surface (S9) (MLRA 147, 148) Loarny Gleyed Matrix (F2) Depleted Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Brok Depth (inches): 12 Hydric Soil Present? Yes ✓ No								
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Histosol (A1)			letion, RM=	Reduced Matrix, MS	S=Masked Sand G	irains.		
Histic Epipedon (A2)	dric Soil Indic	ators:						•
Black Histic (A3)								
Hydrogen Sulfide (A4)							148) (* *
Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 136) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Strictive Layer (if observed): Type: Rock Depth (inches): 12 Depleted Matrix (F3) Redox Dark Surface (F6) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes Voluments No.						147, 148)	_	
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) Strictive Layer (if observed): Type: Rock Depleted Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Depleted Dark Surface (F7) Medox Depressions (F8) Depleted Dark Surface (F7) Wery Shallow Dark Surface (TF12) Other (Explain in Remarks) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be present, unless disturbed or problematic. ### Hydric Soil Present? Yes No Marks:					, ,		_ F	
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) Stripped Matrix (S6) Strictive Layer (if observed): Type: Rock Depth (inches): 12 Depleted Dark Surface (F7) Sendox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) MLRA 136, 122) MIRA 136, 122) Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes ✓ No Meric Surface (F12) No Hydric Soil Present? Yes ✓ No					. ,			
Thick Dark Surface (A12)			e (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: Rock Depth (inches): 12 Marks: Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) MIRA 136, 122) John Mucky Mineral (S1) (LRR N, MLRA 136, 122) John Mucky Mineral (S1) (LRR N, MLRA 136) MIRA 136, 122) John Mucky Mineral (S1) (LRR N, Mucky Marks 136, 122) John Mucky Mineral (S1) (LRR N, Mucky Marks 136, 122) John Mucky Mineral (S1) (LRR N, Mucky Mucky Marks 136, 122) John Mucky Mineral (S1) (LRR N, Mucky			5 (7(1)		, ,			
MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Strictive Layer (if observed): Type: Rock Depth (inches): 12 MLRA 136) Umbric Surface (F13) (MLRA 136, 122) MIRA 136, 122) January Redox (S5) Wetland hydrology must be present, unless disturbed or problematic. Wetland hydrology must be present, unless disturbed or problematic. Wetland hydrology must be present, unless disturbed or problematic. Wetland hydrology must be present, unless disturbed or problematic. Wetland hydrology must be present, unless disturbed or problematic. Wetland hydrology must be present, unless disturbed or problematic. Wetland hydrology must be present, unless disturbed or problematic.			_RR N,			(LRR N,	_ `	sarer (24prain in Hernanie)
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)			,			,		
Stripped Matrix (S6) unless disturbed or problematic. Strictive Layer (if observed): Type: Rock Depth (inches): 12 Hydric Soil Present? Yes ✓ No					•	36, 122)	³ Inc	dicators of hydrophytic vegetation and
strictive Layer (if observed): Type: Rock Depth (inches): 12 marks: Hydric Soil Present? Yes _ ✓ _ No	_ Sandy Redox	(S5)		Piedmont Flo	odplain Soils (F19) (MLRA 14	8) v	vetland hydrology must be present,
Type: Rock Depth (inches): 12 marks: Hydric Soil Present? Yes ✓ No	_ Stripped Matr	ix (S6)					ι	ınless disturbed or problematic.
Depth (inches): 12 Hydric Soil Present? Yes ✓ No marks:	_	(if observed):						
marks:								
	Depth (inches)	: <u>12</u>					Hydric Soi	l Present? Yes <u>√</u> No
ydric soil with depleted matrix observed.	marke:							
	fillains.	vith deplete	ed matri	x observed.				
		•						
		·						
		·						
		·						
		·						
		·						

Attachment to RFI 1-51, Page 122 of 316

Project/Site:Starfire Renewable Power Project City/C	County: Talcum, KY / Knott County Sampling Date: 11/7/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Upland N
Investigator(s): MB / JK Secti	
Landform (hillslope, terrace, etc.): Hillslope Local re	
Subregion (LRR or MLRA): LRR N Lat: 37.415839 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 per	Long:
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly disturbed.	rbed? Are "Normal Circumstances" present? Yes <u>▼</u> No
Are Vegetation, Soil, or Hydrology naturally problem	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sar	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Remarks:	Is the Sampled Area within a Wetland? Yes No
and "Incipient drought" for the date of assessment Upland survey point for Wetland N. HYDROLOGY	CE APT data shows "Drier than Normal" conditions :.
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 Sulfide Oc	dor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospher	
Water Marks (B1) Presence of Reduce	
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (Algal Mat or Crust (B4) Other (Explain in Re	
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)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks:	
Topography not conducive to wetland developmer	IL.

Sampling Point: Upland N

000	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total Niverbay of Dansin aut	
3				Total Number of Dominant Species Across All Strata: 2 (B)
4.					′
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0 (A	/B)
6				Prevalence Index worksheet:	
7					
8					
		= Total Cov	er	OBL species $\frac{0}{2}$ $\times 1 = \frac{0}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. Elaeagnus umbellata	100	Υ	UPL	FAC species $0 x 3 = 0$	
2				FACU species 15 $x 4 = 60$	
3.				UPL species $\frac{100}{100} = x = \frac{500}{100}$	
				Column Totals: 115 (A) 560 (I	B)
4				Column Totals (A) (i)
5				Prevalence Index = $B/A = 4.9$	
6				Hydrophytic Vegetation Indicators:	
7					
8				1 - Rapid Test for Hydrophytic Vegetation	
9				2 - Dominance Test is >50%	
10				3 - Prevalence Index is ≤3.0 ¹	
-	400	= Total Cov	er	4 - Morphological Adaptations (Provide support	ing
Herb Stratum (Plot size: 5ft)		_ 10tai 00v	OI .	data in Remarks or on a separate sheet)	
1. Rosa multiflora	10	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Rubus allegheniensis	5	N	FACU		
				¹ Indicators of hydric soil and wetland hydrology mus	t
3				be present, unless disturbed or problematic.	
4				Definitions of Four Vegetation Strata:	
5				Tree Mandy plants and dispusions 2 in (7 C and)	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) more in diameter at breast height (DBH), regardless	
7				height.	0.
8					
9.				Sapling/Shrub – Woody plants, excluding vines, les than 3 in. DBH and greater than 3.28 ft (1 m) tall.	SS
				than 3 iii. DBH and greater than 3.20 it (1 iii) taii.	
10				Herb - All herbaceous (non-woody) plants, regardle	ss
				of size, and woody plants less than 3.28 ft tall.	
12				Woody vine – All woody vines greater than 3.28 ft in	,
Was to Visa Obstance (Dlates and 30ft	15	= Total Cov	er	height.	'
Woody Vine Stratum (Plot size: 30ft)					
1. <u>N/A</u>					
2					
3					
4					
5				Hydrophytic Vegetation	
6.				Present? Yes No	
		= Total Cov			
		- Total Cov	CI		
Remarks: (Include photo numbers here or on a separate					
Hydrophytic vegetation has not develop	ped in th	e surve	y area.		

Sampling Point: Upland N

SOIL

Profile Desc	ription: (Describe	to the depth	needed to docum	ent the indicato	r or confirm	the absenc	e of indicato	rs.)	
Depth	Matrix		Redox	Features					
(inches)	Color (moist)	%	Color (moist)	% Type ¹	Loc ²	Texture		Remarks	
0-4	10yr 3/2	95				Sandy clay	w/ gravel	inclusions	
4-12	10yr 5/4	90				Sand	w/ gravel	inclusions	
			_			-			_
	-						_		
							-		_
			_			-	_		_
	-								
							_		
¹Type: C=Co	ncentration D=Den	letion RM=F	Reduced Matrix, MS	=Masked Sand G	Grains	² Location: F	PL=Pore Linin	g M=Matrix	_
Hydric Soil I		1011011, 11111-1	toddood Matrix, Me	-Macroa Caria C	ranio.			oblematic Hyd	ric Soils³:
Histosol			Dark Surface	(\$7)				.10) (MLRA 14	
	oipedon (A2)			ow Surface (S8) (MI RΔ 147		Coast Prairie		'''
Black His				face (S9) (MLRA		,	(MLRA 147		
	n Sulfide (A4)		Loamy Gleyed	. , .	171, 170)			odplain Soils (I	F19)
	Layers (A5)		Depleted Matr				(MLRA 136		,
	ck (A10) (LRR N)		Redox Dark S				Red Parent M		
	Below Dark Surfac	e (A11)	Depleted Dark					Dark Surface	(TF12)
	rk Surface (A12)	,	Redox Depres					n in Remarks)	`
	lucky Mineral (S1) (I	RR N,		se Masses (F12)	(LRR N,		` .	,	
	147, 148)		MLRA 136		•				
	leyed Matrix (S4)			e (F13) (MLRA 1	36, 122)	³ lr	dicators of hy	drophytic vege	etation and
	edox (S5)			odplain Soils (F19				ology must be	
Stripped	Matrix (S6)						unless disturb	ed or problem	atic.
Restrictive L	ayer (if observed):								
Type: Ro	ck								
Depth (inc	ches): 12					Hydric So	il Present?	Yes	No <u> </u>
Remarks:	,					,			<u> </u>
	sil haa nat day	rolopod i	in the curvey.	oroo					
riyuric sc	ni nas not dev	reiopeu i	n the survey	area.					

Attachment to RFI 1-51, Page 125 of 316

Project/Site:Starfire Renewable Power Project C	ity/County: Talcum, KY / Knott County Sampling Date: 11/6/23
Applicant/Owner:STMO bn, LLC	ity/County: Talcum, KY / Knott County Sampling Date: 11/6/23 State: KY Sampling Point: Wetland O
	ection, Township, Range:
Landform (hillslope terrace etc.). Depression	al relief (concave, convex, none). Concave Slope (%). 0-2
Subregion (LRR or MLRA): LRR N Lat: 37.404035	Long:83.120308 Datum: NAD83
Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30	percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year	
	isturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally prob	
	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Yes / No Yes / No	Is the Sampled Area
Wetland Hydrology Present? Yes ✓ No	within a Wetland? Yes No
Remarks:	
and "Incipient drought" for the date of assessment No continuous downstream or upstream connect	
	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plai	
	e Odor (C1)
✓ Saturation (A3) Oxidized Rhizosp	oheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Red	
	uction in Tilled Soils (C6) Crayfish Burrows (C8) ce (C7) ✓ Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Thin Muck Surfact Algal Mat or Crust (B4) Other (Explain in	
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)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos	, previous inspections), if available:
C9: See aerial maps Remarks:	
	stion
No continuous downstream or upstream connec	XION.
Isolated to depressional feature.	ad has developed wetland share staristics. Included
from upstream or downstream connections by e	nd has developed wetland characteristics. Isolated
Thom upstream or downstream connections by e	dittien beim.

0.0%	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species
1. N/A				That Are OBL, FACW, or FAC: 2 (A)
2				
3.				Total Number of Dominant Species Across All Strata: 2 (B)
				Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
s		= Total Cov		OBL species 100 x 1 = 100
Sapling/Shrub Stratum (Plot size: 15ft)		= TOTAL COV	EI	FACW species 20 $\times 2 = 40$
1 Platanus occidentalis	10	Υ	FACW	FAC species $0 x 3 = 0$
···				FACU species $\frac{0}{x^2}$ $\frac{1}{x^2}$
2				
3				UPL species $0 \times 5 = 0$
4				Column Totals: <u>120</u> (A) <u>140</u> (B)
5				
6.				Prevalence Index = $B/A = 1.2$
				Hydrophytic Vegetation Indicators:
7				
8				✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0 ¹
10				
	10	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5ft)				
1. Typha angustifolia	100	Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Juncus effusus	10	N	FACW	
				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				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				
8				
				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
	110	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30ft)				height.
1. N/A				
2				
3.				
4				Hydrophytic
5				Vegetation
6				Present? Yes No
		= Total Cov	er	
Remarks: (Include photo numbers here or on a separate	sheet.)			.1
Hydrophytic vegetation has developed	in surve	y area.		

Wetland O SOIL Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features (inches) Color (moist) Texture 0-2 10yr 4/4 100 Sandy clay 2-12 10yr 5/1 100 Clay ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: ___ 2 cm Muck (A10) (MLRA 147) ___ Histosol (A1) Dark Surface (S7) ___ Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) ___ Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) ___ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) ✓ Depleted Matrix (F3) Stratified Layers (A5) (MLRA 136, 147) __ 2 cm Muck (A10) (LRR N) ___ Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) _ Other (Explain in Remarks) ___ Sandy Mucky Mineral (S1) (LRR N, ___ Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) 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, unless disturbed or problematic. Stripped Matrix (S6) Restrictive Layer (if observed): Hydric Soil Present? Yes ✓ No Depth (inches): Remarks: Hydric soil with depleted matrix observed.

Attachment to RFI 1-51, Page 128 of 316

Project/Site:Starfire Renewable Power Project City/C	ounty: Talcum, KY / Knott County Sampling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Upland O
Investigator(s): MB / JK Section	
Landform (hillslope, terrace, etc.): Hillslope Local reli	
Subregion (LRR or MLRA): LRR N Lat: 37.403968	
Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percentage.	cent slopes stony
•	
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 problems	ttic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing same	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes No _ Yes No _ Remarks:	Is the Sampled Area within a Wetland? Yes No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. Upland survey point for Wetland O.	
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 (High Water Table (A2) Hydrogen Sulfide Ode	
Saturation (A3) Oxidized Rhizosphere	
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reductio	
Drift Deposits (B3) Thin Muck Surface (C	
Algal Mat or Crust (B4) Other (Explain in Ren	narks) 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)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	
Topography not conducive to wetland developmen	t
repegraphy her contactive to westand development	•

0.05	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2.				
3.				Total Number of Dominant Species Across All Strata: 1 (B)
				Species Across All Strata.
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0 (A/B)
6				Prevalence Index worksheet:
7				
8				Total % Cover of: Multiply by:
		= Total Cov		OBL species $0 x 1 = 0$
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$
1. N/A				FAC species $0 x 3 = 0$
2.				FACU species 100 x 4 = 400
				UPL species $0 \times 5 = 0$
3				
4				Column Totals: 100 (A) 400 (B)
5				Prevalence Index = B/A = 4.0
6				
7				Hydrophytic Vegetation Indicators:
8.				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
10				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5ft)		= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 511) 1. Lespedeza cuneata	100	V	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
		<u>Y</u>		
2				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
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 3.28 ft (1 m) tall.
10				Hards All back a constant of the state of th
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				or size, and woody plants less than 3.20 it tall.
	100	= Total Cov	or	Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30ft)		- 10tai 00v	CI	height.
1. N/A				
2				
3				
4				Hydrophytic
5				Vegetation
6				Present? Yes No
		= Total Cov	er	
Remarks: (Include photo numbers here or on a separate				
Hydrophytic vegetation has not develop	ped in th	e surve	y area.	

Sampling Point: Upland O

SOIL Sampling Point:

Depth	Matrix	%	Redox Features Color (moist) % Type ¹ Loc ²	Tautuma	Damada
inches))-10	Color (moist) 10yr 4/2	 95	Color (moist) % Type ¹ Loc ²	Texture Sandy clay	Remarks w/ gravel inclusions
-10	1091 4/2	_ 90		Salidy Clay	w/ graver inclusions
	· -				
	· -				
	· -				
vne: C=C	Concentration, D=De	epletion, RM=	Reduced Matrix, MS=Masked Sand Grains.	² Location: Pl	L=Pore Lining, M=Matrix.
	Indicators:	prodori, ravi	rtoddod Matrix, Mo-maokod Carla Graine.		ators for Problematic Hydric Soils ³ :
_ Histosol			Dark Surface (S7)		cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Below Surface (S8) (MLRA 147		Coast Prairie Redox (A16)
	listic (A3)		Thin Dark Surface (S9) (MLRA 147, 148)		(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	F	Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Matrix (F3)		(MLRA 136, 147)
2 cm Mı	uck (A10) (LRR N)		Redox Dark Surface (F6)	F	Red Parent Material (TF2)
	ed Below Dark Surfa	nce (A11)	Depleted Dark Surface (F7)		/ery Shallow Dark Surface (TF12)
	ark Surface (A12)		Redox Depressions (F8)	0	Other (Explain in Remarks)
	Mucky Mineral (S1)	(LRR N,	Iron-Manganese Masses (F12) (LRR N,		
	A 147, 148)		MLRA 136)	2.	
	Gleyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 122)		dicators of hydrophytic vegetation and
_ Sandy F	Redox (S5)		Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 1	48) v	vetland hydrology must be present,
_ Sandy F _ Stripped	Redox (S5) d Matrix (S6)	n.		48) v	
_ Sandy F _ Stripped estrictive	Redox (S5) d Matrix (S6) Layer (if observed	I):		48) v	vetland hydrology must be present,
Sandy F Stripped estrictive Type: Ro	Redox (S5) d Matrix (S6) Layer (if observed ock	I):		48) v	vetland hydrology must be present, inless disturbed or problematic.
Sandy F Stripped estrictive Type: Ro	Redox (S5) d Matrix (S6) Layer (if observed	i):		48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10			48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in emarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in emarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in emarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in emarks:	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.
_ Sandy F _ Stripped estrictive Type: Ro Depth (in	Redox (S5) d Matrix (S6) Layer (if observed ock nches): 10		Piedmont Floodplain Soils (F19) (MLRA 1-	48) v	vetland hydrology must be present, inless disturbed or problematic.

Attachment to RFI 1-51, Page 131 of 316

Project/Site: Starfire Renewable Power Project City/County: Talcum, KY / Knott County Sampling Date: 11/6/23 Applicant/Owner: STMO bn, LLC Investigator(s): MB / JK Section, Township, Range: Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2 Subregion (LRR or MLRA): LRR N Lat: 37.403704 Long: -83.118944 Datum: NAD83 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percent slopes, stony NWI classification: None Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _ ✓ (If no, explain in Remarks.)
Investigator(s): MB / JK Section, Township, Range: Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2 Subregion (LRR or MLRA): LRR N Lat: 37.403704 Long: -83.118944 Datum: NAD83 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percent slopes, stony NWI classification: None Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _ ✓ _ (If no, explain in Remarks.)
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2 Subregion (LRR or MLRA): LRR N Lat: 37.403704 Long: -83.118944 Datum: NAD83 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percent slopes, stony NWI classification: None Are climatic / hydrologic conditions on the site typical for this time of year? Yes No✓ (If no, explain in Remarks.)
Subregion (LRR or MLRA): LRR N Lat: 37.403704 Long: -83.118944 Datum: NAD83 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percent slopes, stony NWI classification: None Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Soil Map Unit Name: FKE—Fiveblock and Kaymine soils, 0 to 30 percent slopes, stony NWI classification: None Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation Coil or Hydrology eignificantly disturbed? Are "Normal Circumstances" present? Veg V
Are Vegetation, Soil, or Hydrology significantly disturbed?
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No Is the Sampled Area within a Wetland? Yes ✓ No No Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No Yes ✓ No No Present No
Survey conducted during the "Wet Season". USACE APT data shows "Drier than Normal" conditions and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection. Isolated feature.
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 Sulfide Odor (C1) ✓ Drainage Patterns (B10) ✓ 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)
Sediment Deposits (B2) Recent Iron 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 (Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)
✓ 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 _ \(\sigma \) No Depth (inches): 0
Water Table Present? Yes No ✓ Depth (inches):
Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
B7, C9: See aerial maps
2., 50. 55 45.14. 11.45
Remarks:
Remarks: No continuous downstream or unstream connection
No continuous downstream or upstream connection.
No continuous downstream or upstream connection. Isolated to depressional feature.
No continuous downstream or upstream connection. Isolated to depressional feature. Vehicle trail dissects wetland, wetland features on either side.
No continuous downstream or upstream connection. Isolated to depressional feature.
No continuous downstream or upstream connection. Isolated to depressional feature. Vehicle trail dissects wetland, wetland features on either side.
No continuous downstream or upstream connection. Isolated to depressional feature. Vehicle trail dissects wetland, wetland features on either side.
No continuous downstream or upstream connection. Isolated to depressional feature. Vehicle trail dissects wetland, wetland features on either side.
No continuous downstream or upstream connection. Isolated to depressional feature. Vehicle trail dissects wetland, wetland features on either side.

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 x 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

Wetland P SOIL Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features (inches) Color (moist) Texture 0-2 10yr 4/2 100 Sandy clay 2-12 10yr 5/1 100 Clay ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: ___ 2 cm Muck (A10) (MLRA 147) ___ Histosol (A1) Dark Surface (S7) ___ Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) ___ Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) ___ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) ✓ Depleted Matrix (F3) Stratified Layers (A5) (MLRA 136, 147) __ 2 cm Muck (A10) (LRR N) ___ Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) _ Other (Explain in Remarks) ___ Sandy Mucky Mineral (S1) (LRR N, ___ Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) 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, unless disturbed or problematic. Stripped Matrix (S6) Restrictive Layer (if observed): Hydric Soil Present? Yes ✓ No Depth (inches): Remarks: Hydric soil with depleted matrix observed.

Attachment to RFI 1-51, Page 134 of 316

Project/Site:Starfire Renewable Power Project City/County: Talco	um, KY / Knott County Sampling Date: 11/6/23
Project/Site: <u>Starfire Renewable Power Project</u> City/County: <u>Talca</u> Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Upland P
Investigator(s): MB / JK Section, Township	
Landform (hillslope, terrace, etc.): Terrace Local relief (concave,	
Landionn (nilisiope, terrace, etc.) Local relief (concave,	-83 119092 - NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.403774	stony Datum: None
Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percent slopes,	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes N	
Are Vegetation, Soil, or Hydrology significantly disturbed?	Are "Normal Circumstances" present? Yes _ ✓ No
Are Vegetation, Soil, or Hydrology naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling poi	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes No / Yes No / No / No /	pled Area etland? Yes No
Survey conducted during the "Wet Season". USACE APT of and "Incipient drought" for the date of assessment. Upland survey point for Wetland P. HYDROLOGY	data shows "Drier than Normal" conditions
	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
	Surface Sull Clacks (B6) Sparsely Vegetated Concave Surface (B8)
Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1)	Orainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living I	
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled Sc	
Drift Deposits (B3) Thin Muck Surface (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	
	Western Handredon December 200 Version No. V
Saturation Present? Yes No / Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No _▼
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect	tions), if available:
Remarks:	
Topography not conducive to wetland development.	
	I

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 1 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0
Total Number of Dominant Species Across All Strata: 1 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0
Species Across All Strata: 1 (B) Percent of Dominant Species 0 (A/B) That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
Species Across All Strata: 1 (B) Percent of Dominant Species 0 (A/B) That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
Percent of Dominant Species 0 (A/B) That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
Prevalence Index worksheet:
Total % Cover of: Multiply by: OBL species 0 x 1 = 0
Total % Cover of: Multiply by: OBL species 0 x 1 = 0
OBL species $0 \times 1 = 0$
FACW species 0 $y 2 = 0$
FAC species $0 \times 3 = 0$
FACU species 100 $x 4 = 400$
UPL species $0 \times 5 = 0$
Column Totals: 100 (A) 400 (B)
Coldinii Totals (A) (B)
Prevalence Index = $B/A = 4.0$
Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is >50%
3 - Prevalence Index is ≤3.0 ¹
4 - Morphological Adaptations ¹ (Provide supporting
data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation ¹ (Explain)
¹ Indicators of hydric soil and wetland hydrology must
be present, unless disturbed or problematic.
Definitions of Four Vegetation Strata:
Tree Meady plants avaluding visco 2 in (7 Com) on
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 3.28 ft (1 m) tall.
than 3 in. DBH and greater than 3.26 it (1 iii) tail.
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.
Herdre wheet a
Hydrophytic Vegetation
Present? Yes No
١

SOIL

Profile Desc	ription: (Describe	to the depth	needed to docum	nent the i	ndicator o	r confirm	n the ab	sence of indicators.)
Depth	Matrix		Redox	k Features	3			
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Text	
0-10	10yr 4/2	100					Sandy	r clay
								
-							-	
	_							
1							2	
	oncentration, D=Dep	oletion, RM=R	educed Matrix, MS	=Masked	Sand Gra	ins.		on: PL=Pore Lining, M=Matrix.
Hydric Soil I								Indicators for Problematic Hydric Soils ³ :
Histosol	. ,		Dark Surface					2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		. , .		148)	Coast Prairie Redox (A16)
Black His			Thin Dark Su			47, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		F2)			Piedmont Floodplain Soils (F19)
	Layers (A5) ck (A10) (LRR N)		Depleted Mat		(e)			(MLRA 136, 147) Red Parent Material (TF2)
	Below Dark Surfac	e (A11)	Depleted Dar					Very Shallow Dark Surface (TF12)
	rk Surface (A12)	,	Redox Depre					Other (Explain in Remarks)
	lucky Mineral (S1) (LRR N,	Iron-Mangane			.RR N,		
	. 147, 148)	,	MLRA 136		, , ,	•		
	leyed Matrix (S4)		Umbric Surfa	ce (F13) (MLRA 130	5, 122)		³ Indicators of hydrophytic vegetation and
Sandy R	edox (S5)		Piedmont Flo				1 8)	wetland hydrology must be present,
Stripped	Matrix (S6)							unless disturbed or problematic.
	ayer (if observed)	:						
Type: Ro	ck							
Depth (inc	ches): <u>10</u>						Hydri	ic Soil Present? Yes No _√
Remarks:							-	
Hydric so	oil has not de	veloned i	n the survey	area				
r ry arro oc	iii iido iiot do	volopod i	ir aro carvoy	aroa.				

Attachment to RFI 1-51, Page 137 of 316

Project/Site: Starfire Renewable Power Project	Project/Site:Starfire Renewable Power Project City/County: Talcum, F	KY / Knott County Sampling Date: 11/6/23
Investigator(s): MB / J K	Applicant/Owner·STMO bn. LLC	State: KY Sampling Point: Wetland Q
Landform (hillslope, terrace, etc.); Depression	MD / II/	
Subregion (LRR or MLRA): LRR N Lat: 37.402980 Long: -83.117288 Datum: NAD83 Soil Map Unit Name: FRE—Fiveblock and Kaymine soils, 0 to 30 percent slopes, story 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 naturally problematic? (If needed, explain any answers in Remarks.) Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No is the Sampled Area within a Wetland? Yes No Hydric Soil Present? Yes No within a Wetland? Yes No Remarks: Survey conducted during the "Wet Season". USACE APT data shows "Drier than Normal" conditions and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection. Isolated feature. HYDROLOGY Wetland Hydrology Indicators:	• ()	
Soll Map Unit Name: ErkE—Hiveblock and Kaymine Solls, U to 30 percent slopes, Stony Are climatic / hydrologic conditions on the site typical for this time of year? Yes	Cubrasian (LDR or MLDA). LRR N Lat. 37.402980	83.117268 Detum: NAD83
Are Vegetation Soil or Hydrology significantly disturbed?	Sublegion (ERR of MERA) Eat Eat Eat Eong	Datum. None
Are Vegetation Soil or Hydrology significantly disturbed?		
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present?		,
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes / No within a Wetland? Yes / No within a Wetland? Wetland Hydrology Present? Yes / No within a Wetland? Remarks: Survey conducted during the "Wet Season". USACE APT data shows "Drier than Normal" conditions and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection. Isolated feature. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydroge Sulfide Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Presence of Reduced Iron (C4) Drift Deposits (B2) Recent from Reduction in Titled Soils (C6) Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Other (Explain in Remarks) Iron Deposits (B5) Iron Deposits (B5) Mater-Stained Leaves (B9) Aquatic Fauna (B13) Feature (D2) Aquatic Fauna (B13) Feature (D2) Aquatic Fauna (B13) Feature (D2) Aquatic Fauna (B13) Feature (D3) Water Table Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Suther Table Pres		
Hydrophytic Vegetation Present? Yes	Are Vegetation, Soil, or Hydrology naturally problematic? (If nee	eded, explain any answers in Remarks.)
Hydroc Soil Present? Yes / No within a Wetland? Yes No No Wetland Hydrology Present? Yes / No Wetland Hydrology Present? Yes / No Wetland Hydrology Present? Yes / No	SUMMARY OF FINDINGS - Attach site map showing sampling point lo	ocations, transects, important features, etc.
and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection. Isolated feature. HYDROLOGY	Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes / _ No within a Wetland Yes / No No	d? Yes <u></u> No
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 Sulfide Odor (C1) Drainage Patterns (B10) 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) Sediment Deposits (B2) Recent Iron 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 (Explain in Remarks) Stunted or Stressed Plants (D1) Inon Deposits (B5) Jenundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Wetland to depressional feature. <td>and "Incipient drought" for the date of assessment.</td> <td></td>	and "Incipient drought" for the date of assessment.	
Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1) 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) Sediment Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Sedimant Deposits (B1 that apply) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Prainage Patterns (B10) V Drainage Patterns (B10) V Drainage Patterns (B16) Drainage Patterns (B16) Moss Trim Lines (B16) Moss Trim Lines (B16) Dry-Season Water Robe (C2) Crayfish Burrows (C8) Crayfish Burrows (C8) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No continuous downstream or upstream connection. Isolated to depressional feature.	HYDROLOGY	
Surface Water (A1)		
High Water Table (A2)		
✓ 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) Sediment Deposits (B2) Recent Iron 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 (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): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Saturation Present? Yes ✓ No Depth (inches): Wetland Hydrology Present? Yes No Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	1 — —	
Water Marks (B1)		
Sediment Deposits (B2) Recent Iron 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 (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): Wetland Hydrology Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No continuous downstream or upstream connection. Isolated to depressional feature.		
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) Microtopographic Relief (D4) Aquatic Fauna (B13) PAC-Neutral Test (D5) Water-Stained Leaves (B9) Microtopographic Relief (D4) FAC-Neutral Test (D5) With the present of the pres		
In Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes No ✓ Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes ✓ No Depth (inches): Saturation Present? Yes ✓ No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No continuous downstream or upstream connection. Isolated to depressional feature.	Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Aquatic Fauna (B13) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Status (D5) Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Status (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No continuous downstream or upstream connection. Isolated to depressional feature.	Algal Mat or Crust (B4) Other (Explain in Remarks)	
		
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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No continuous downstream or upstream connection. Isolated to depressional feature.		
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 photos, previous inspections), if available: Remarks: No continuous downstream or upstream connection. Isolated to depressional feature.		
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Prescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No continuous downstream or upstream connection. Isolated to depressional feature.		- 1 AC-Neutral Test (D3)
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Present? Yes No No No Present? Yes No		
Saturation Present? Yes No Depth (inches): _0 Wetland Hydrology Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No continuous downstream or upstream connection. Isolated to depressional feature.		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No continuous downstream or upstream connection. Isolated to depressional feature.	Saturation Present? Yes V No Depth (inches): 0 Wet	land Hydrology Present? Yes No
Remarks: No continuous downstream or upstream connection. Isolated to depressional feature.	(includes capillary fringe)	
No continuous downstream or upstream connection. Isolated to depressional feature.	Describe Recorded Data (stream gauge, monitoring well, aerial priotos, previous inspections),	, ii avaliable.
Isolated to depressional feature.	Remarks:	
Isolated to depressional feature.	No continuous downstream or upstream connection	
·	·	
Training graver road bod, to and bodan, impounde downed carriotation.	•	onnection
	Trained graver read bea, to the boath, impounde downer early	
		I

00%	Absolute		
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species? Sta	
1. N/A			TI
2			
3.			
			Species Across All Strata (B)
4			Percent of Dominant Species
5			That Are OBL, FACW, or FAC: 100 (A/B)
6			
7			Prevalence index worksneet:
8			lotal % Cover of: Multiply by:
o			OBL species 100 x 1 = 100
Sapling/Shrub Stratum (Plot size: 15ft)		= Total Cover	FACW species $0 x 2 = 0$
. Ν/Δ			
			
2			FACU species $\frac{0}{0}$ $x = 4$
3			UPL species 0 x 5 = 0
4		<u> </u>	Column Totals: 100 (A) 100 (B)
5			
			Prevalence index = b/A = ···
6			
7			1 - Rapid Test for Hydrophytic Vegetation
8			✓ 2 - Dominance Test is >50%
9		<u></u>	
10			3 - Prevalence Index is ≤3.0 ¹
		= Total Cover	4 - Morphological Adaptations (Provide supporting
Herb Stratum (Plot size: 5ft)		= Total Cover	data in Remarks or on a separate sheet)
1 Typha angustifolia	100	Y OBI	Problematic Hydrophytic Vegetation ¹ (Explain)
· · · 			
2			
3			be present, unless disturbed or problematic.
4			Definitions of Four Vegetation Strata:
5			belintions 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			
8			Sapling/Shrub – Woody plants, excluding vines, less
9			than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10			
11.			Herb – All herbaceous (non-woody) plants, regardless
			of size, and woody plants less than 3.28 ft tall.
12	100		Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30ft)	100	= Total Cover	height.
1. <u>N/A</u>			
2			
3		·	
4			
5			Hydrophytic
			— Vegetation
6			Fresent: Tes NO
	· · · · · · · · · · · · · · · · · · ·	= Total Cover	
Remarks: (Include photo numbers here or on a separate	sheet.)		·
Hydrophytic vegetation has developed	in surve	v area	
Trydrophrytic vegetation has developed	iii Sui ve	y arca.	

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features (inches) Color (moist) Texture 0-2 10yr 4/2 100 Sandy clay 2-12 10yr 5/1 100 Clay ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: ___ 2 cm Muck (A10) (MLRA 147) ___ Histosol (A1) Dark Surface (S7) ___ Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) ___ Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) ___ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) ✓ Depleted Matrix (F3) Stratified Layers (A5) (MLRA 136, 147) __ 2 cm Muck (A10) (LRR N) ___ Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) _ Other (Explain in Remarks) ___ Sandy Mucky Mineral (S1) (LRR N, ___ Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) 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, unless disturbed or problematic. Stripped Matrix (S6) Restrictive Layer (if observed): Hydric Soil Present? Yes ✓ No Depth (inches): Remarks: Hydric soil with depleted matrix observed.

Wetland Q

Attachment to RFI 1-51, Page 140 of 316

Project/Site: Starfire Renewable Power Project City/C	ounty: Talcum, KY / Knott County	Sampling Date: 11/6/23
Applicant/Owner:STMO bn, LLC	State: KY	Sampling Point: Upland Q
MD / II/	on, Township, Range:	
Landform (hillslope, terrace, etc.): Terrace Local reli		Slone (%). 0
Subregion (LRR or MLRA): LRR N Lat: 37.403053	Long: -83.117598	NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.403053 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percentage.	cent slopes, stony NWI classific	ation: None
Are climatic / hydrologic conditions on the site typical for this time of year? Y		
Are Vegetation, Soil, or Hydrology significantly distur		
Are Vegetation, Soil, or Hydrology naturally problems		
SUMMARY OF FINDINGS - Attach site map showing sam	ipling point locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No / Hydric Soil Present? Yes No / Wetland Hydrology Present? Yes No / Remarks:	Is the Sampled Area within a Wetland? Yes	No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. Upland survey point for Wetland Q.		an Normal" conditions
HYDROLOGY		
Wetland Hydrology Indicators:		tors (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil (
Surface Water (A1) True Aquatic Plants (etated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Od		
Saturation (A3) Oxidized Rhizosphero Water Marks (B1) Presence of Reduced		Nater Table (C2)
Sediment Deposits (B2) Recent Iron Reduction		
Drift Deposits (B3) Thin Muck Surface (C		sible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Rer		ressed Plants (D1)
Iron Deposits (B5)	Geomorphic	
Inundation Visible on Aerial Imagery (B7)	Shallow Aqui	
Water-Stained Leaves (B9)		phic 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)	Wetland Hydrology Presen	t? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:	
Remarks:		
Topography not conducive to wetland developmen	t.	

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 1 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
Total Number of Dominant Species Across All Strata: 1 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0
Species Across All Strata: 1 (B) Percent of Dominant Species 0 (A/B) That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
Species Across All Strata: 1 (B) Percent of Dominant Species 0 (A/B) That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
Percent of Dominant Species 0 (A/B) That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
Prevalence Index worksheet:
Total % Cover of: Multiply by: OBL species 0 x 1 = 0
Total % Cover of: Multiply by: OBL species 0 x 1 = 0
OBL species $0 \times 1 = 0$
FACW species 0 $y 2 = 0$
FAC species $0 \times 3 = 0$
FACU species 100 $x 4 = 400$
UPL species $0 \times 5 = 0$
Column Totals: 100 (A) 400 (B)
Coldinii Totals (A) (B)
Prevalence Index = $B/A = 4.0$
Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is >50%
3 - Prevalence Index is ≤3.0 ¹
4 - Morphological Adaptations ¹ (Provide supporting
data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation ¹ (Explain)
¹ Indicators of hydric soil and wetland hydrology must
be present, unless disturbed or problematic.
Definitions of Four Vegetation Strata:
Tree Meady plants avaluding visco 2 in (7 Com) on
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 3.28 ft (1 m) tall.
than 3 in. DBH and greater than 3.26 it (1 iii) tail.
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.
Herdre wheet a
Hydrophytic Vegetation
Present? Yes No
١

Sampling Point: Upland Q

SOIL

	ription: (Describe	to the dept	h needed to docun	ient the malcator o	r confirm the	absence of indica	ators.)
Depth	Matrix		Redo	Features			
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Type ¹	Loc ² 1	exture	Remarks
0-12	10yr 4/2	100			Sa	ndy clay	
	-						
		- -					
	-						
	-	- -					
1Tymor C C	noontration D Don	Jotion DM	Dadwaad Matrix MC	Mooked Cond Cro	21.0	notion: DI Doro Li	ning M Motrix
Hydric Soil		ietion, Rivi=	Reduced Matrix, MS	=Masked Sand Gra	ns. Lo	cation: PL=Pore Li	ning, M=Matrix. Problematic Hydric Soils ³ :
			5 1 6 7	(07)			
Histosol			Dark Surface		DA 447 440		(A10) (MLRA 147)
	pipedon (A2)			ow Surface (S8) (MI			rie Redox (A16)
Black Hi				rface (S9) (MLRA 14	17, 148)		147, 148)
	n Sulfide (A4)		Loamy Gleye				Floodplain Soils (F19)
	Layers (A5)		Depleted Mat				136, 147)
	ick (A10) (LRR N) d Below Dark Surfac	o (A11)	Redox Dark S				t Material (TF2)
	ark Surface (A12)	e (ATT)	Redox Depre	k Surface (F7)			ow Dark Surface (TF12) plain in Remarks)
	lucky Mineral (S1) (I	DDN		ese Masses (F12) (L	DD N	Other (Ext	olalii iii Remarks)
	147, 148)	LIXIX IN,	MLRA 13		KK N,		
	sleyed Matrix (S4)			oe (F13) (MLRA 136	122)	3Indicators of	hydrophytic vegetation and
	edox (S5)			odplain Soils (F19) (drology must be present,
	Matrix (S6)		1 10011101101101	ouplain oolis (i 15) (WEIGH 140)		urbed or problematic.
	_ayer (if observed)					unicoo dioi	arbed or problematic.
Type: Ro		•					
					١		
Depth (inc	ches): 12				H	ydric Soil Present	? Yes No
Remarks:							
Hydric so	oil has not dev	veloped	in the survey	area.			

Attachment to RFI 1-51, Page 143 of 316

Project/Site:Starfire Renewable Power Project City/C	ounty: Talcum, KY / Knott County Sampling Date: 11/7/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Wetland R
AAD / HZ	on, Township, Range:
Landform (hillslope, terrace, etc.): Depression Local reli	
Cubaration (Initiality of the Carter of the	Slope (79) Slope (79) NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.410813 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percentage.	Long:
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly disturb	ped? Are "Normal Circumstances" present? Yes _▼ No
Are Vegetation, Soil, or Hydrology naturally problems	itic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing same	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes / No Hydric Soil Present? Yes / No Wetland Hydrology Present? Yes / No Remarks:	Is the Sampled Area within a Wetland? Yes No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. No continuous downstream or upstream connectio	
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 (
High Water Table (A2) Hydrogen Sulfide Odd	
✓ Saturation (A3) Oxidized Rhizosphere	
Water Marks (B1) Presence of Reduced	Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reductio	
Drift Deposits (B3) Thin Muck Surface (C	
Algal Mat or Crust (B4) Other (Explain in Ren	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	✓ Geomorphic Position (D2) Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Shallow Aquitate (D3) 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): 0	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
C9: See aerial maps	vious inspections), ii avaliable.
Remarks:	
	n
No continuous downstream or upstream connectio	11.
Isolated to depressional feature.	

0.05	Absolute	Dominant India	cator Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species? Sta	T Number of Dominant Species
1. N/A			
2.			
3			Species Across All Strata: 1 (B)
4			Percent of Dominant Species
5			—— That Are OBL, FACW, or FAC: 100 (A/B)
6			
			Prevalence Index worksheet:
7			Total % Cover of: Multiply by:
8			OBL species 100 x 1 = 100
454		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft)			FACW species $\frac{0}{x}$ $x = \frac{0}{x}$
1. N/A			FAC species 0 x 3 = 0
2			FACU species $0 x 4 = 0$
			UPL species $0 \times 5 = 0$
3			100 100
4			Column Totals: 100 (A) 100 (B)
5			Boundary Indox D(A 10
6			Prevalence index = b/A =
7.			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
8			✓ 2 - Dominance Test is >50%
9			✓ 3 - Prevalence Index is ≤3.0¹
10			I —
		= Total Cover	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5ft)		= 10tal 00vci	data in Remarks or on a separate sheet)
1. Typha angustifolia	100	Y OBI	Problematic Hydrophytic Vegetation ¹ (Explain)
2			1 Indicators of hydric soil and wetland hydrology must
3			be present, unless disturbed or problematic.
4			· · · · · · · · · · · · · · · · · · ·
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			Ocalia (Olamba - Wasalania analatia analatia a
9			Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
			than 5 in. DBH and greater than 5.20 it (1 iii) tail.
10			Herb – All herbaceous (non-woody) plants, regardless
11			of size, and woody plants less than 3.28 ft tall.
12			
	100	= Total Cover	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30ft)			height.
1. N/A			
2.			
3			
4			Hydrophytic
5			Vegetation
6			Present? Yes No
		= Total Cover	
		= Total Cover	
Remarks: (Include photo numbers here or on a separate	sheet.)		
Hydrophytic vegetation has developed	in surve	v area	
y ar oprily are regettation made are releptou		y andan	

SOIL

administration, ragorito di Oto	Sampling Point:	Wetland R

(inches)	Matrix Color (moist)	%	Color (moist)	K Features W Type ¹	Loc ²	Texture	Remarks
0-2	10yr 3/1	100	COIOI (IIIOISI)		LUC	Clay	- Nemary
							· -
!-12	10yr 5/1	100				Clay	
					·		
	-						-
	-			·			
		pletion, RM=	Reduced Matrix, MS	=Masked Sand G	rains.		PL=Pore Lining, M=Matrix.
	Indicators:						cators for Problematic Hydric Soils ³ :
_ Histosol			Dark Surface				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)			low Surface (S8) (148)	Coast Prairie Redox (A16)
	istic (A3)		Inin Dark Sui	rface (S9) (MLRA	147, 148)		(MLRA 147, 148) Piedmont Floodplain Soils (F19)
	en Sulfide (A4) d Layers (A5)		Loamy Gleye ✓ Depleted Mat	, ,		_	(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark S	, ,			Red Parent Material (TF2)
	d Below Dark Surfa	ce (A11)		k Surface (F7)			Very Shallow Dark Surface (TF12)
	ark Surface (A12)	,	Redox Depre				Other (Explain in Remarks)
_ Sandy N	Mucky Mineral (S1)	LRR N,	Iron-Mangane	ese Masses (F12)	(LRR N,		
MLR	A 147, 148)		MLRA 136	6)			
	Gleyed Matrix (S4)			ce (F13) (MLRA 1			dicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo	odplain Soils (F19	(MLRA 14		wetland hydrology must be present,
	d Matrix (S6)					1	unless disturbed or problematic.
	Layer (if observed)):					
Type:							
Depth (in	ches):					Hydric So	il Present? Yes No
emarks: Ivdric s	oil with a den	leted ma	trix has devel	oned at surv	ev locat	tion	
y arrio o	on mara dop	iotou iiio	tinx rido dovoi	opou at our	oy lood		

Attachment to RFI 1-51, Page 146 of 316

Project/Site:Starfire Renewable Power Project City/C	ounty: Talcum, KY / Knott County Sampling Date: 11/7/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Upland R
Investigator(s): MB / JK Section	
Landform (hillslope, terrace, etc.): Terrace Local reli	of (conceive convex none). Flat Slone (%): 0
Landrollin (nilisiope, terrace, etc.)	-83 112864 - NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.410733	Long: Oct. 112004 Datum: 14/1200
Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percentage of the soil of the	
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly disturb	ped? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally problems	itic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing same	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Remarks:	Is the Sampled Area within a Wetland? Yes No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. Upland survey point for Wetland R. HYDROLOGY	
	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (High Water Table (A2) Hydrogen Sulfide Ode	
Saturation (A3) Oxidized Rhizosphere	
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reductio	
Drift Deposits (B3) Thin Muck Surface (C	(C9) Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4) Other (Explain in Ren	narks) 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 Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	Wetland hydrology Present? Tes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	
Topography not conducive to wetland developmen	t.

- 20ft	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30ft) 1. N/A		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant Species Across All Strata: 1 (B)
4. 5.				Percent of Dominant Species That Are OBL FACW or FAC: 0 (A/B
				That Are OBL, FACW, or FAC: 0 (A/B
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species $0 x 1 = 0$
Sapling/Shrub Stratum (Plot size: 15ft)		= Total Cove	er	FACW species $0 x 2 = 0$
4 N/A				FAC species $0 \times 3 = 0$
_				FACU species 80 x 4 = 320
2				UPL species 0 $x = 0$
3				000
4				Column Totals: 80 (A) 320 (B)
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
10				4 - Morphological Adaptations¹ (Provide supportin
the total control of the control of		= Total Cove	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5ft) 1 Lespedeza cuneata	00	V	EACH	Problematic Hydrophytic Vegetation ¹ (Explain)
"			FACU	
2				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) o 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 3.28 ft (1 m) tall.
10.				than 3 in. DBH and greater than 3.20 it (1 iii) tail.
11			-	Herb - All herbaceous (non-woody) plants, regardless
12.				of size, and woody plants less than 3.28 ft tall.
12.	80	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30ft)		= TOTAL COVE	7 1	height.
1. N/A				
2.				
3.			-	
4				
				Hydrophytic
5				Vegetation Present? Yes No
6				riesent: resNo
	· · · · · · · · · · · · · · · · · · ·	= Total Cove	er	
Remarks: (Include photo numbers here or on a separate	sheet.)			
Hydrophytic vegetation has not develop	ped in th	e survey	/ area.	

Sampling Point: Upland R

SOIL

Profile Desc	ription: (Describe	to the depth	needed to docun	nent the in	dicator o	r confirm	the abs	sence of in	dicators	s.)	
Depth	Matrix			K Features							
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Textu			Remarks	
0-5	10yr 4/2	90					Sandy	clay w/ g	gravel i	nclusions	
		·									
		·					-				
	-										
	oncentration, D=Dep	letion, RM=F	Reduced Matrix, MS	=Masked S	Sand Grain	ns.		n: PL=Por			
Hydric Soil I											lydric Soils³:
Histosol			Dark Surface							0) (MLRA	
	pipedon (A2)		Polyvalue Be				148)			Redox (A16	5)
Black Hi			Thin Dark Su			7, 148)			RA 147,		(540)
	n Sulfide (A4)		Loamy Gleye		2)					dplain Soils	s (F19)
	d Layers (A5) ick (A10) (LRR N)		Depleted Mat		•\				RA 136,	1 47) iterial (TF2	\
	d Below Dark Surfac	Δ (Δ11)	Depleted Dar							ark Surfac	
	ark Surface (A12)	0 (////)	Redox Depre							in Remark	
	lucky Mineral (S1) (I	LRR N.	Iron-Mangane			RR N.			. —		-,
	\ 147, 148)	,	MLRA 130		` , `	,					
	lleyed Matrix (S4)		Umbric Surfa	ce (F13) (N	ILRA 136	, 122)		³ Indicator	s of hyd	rophytic ve	getation and
	edox (S5)		Piedmont Flo	odplain So	ils (F19) (I	MLRA 14	l8)	wetland	d hydrol	ogy must b	e present,
Stripped	Matrix (S6)							unless	disturbe	ed or proble	ematic.
	_ayer (if observed):										
Type: Ro	ck										
Depth (inc	ches): <u>5</u>						Hydri	c Soil Pres	ent?	Yes	No <u> </u>
Remarks:							1				
Hydric so	oil has not dev	veloped i	n the survey	area							
,											

Attachment to RFI 1-51, Page 149 of 316

Project/Site:Starfire Renewable Power Project City/County: Talodin, NT / Nilott Godiny Sampling Date: 117725
Project/Site: Starfire Renewable Power Project City/County: Talcum, KY / Knott County Sampling Date: 11/7/23 Applicant/Owner: STMO bn, LLC State: KY Sampling Point: Wetland S
Investigator(s): MB / JK Section, Township, Range:
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2
Subregion (LRR or MLRA): LRR N Lat: 37.412096 Long: -83.112472 Datum: NAD83
Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percent slopes, stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes _ ✓ No Wetland Hydrology Present? Remarks: Is the Sampled Area within a Wetland? Yes _ ✓ No No
Survey conducted during the "Wet Season". USACE APT data shows "Drier than Normal" conditions and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection. Isolated feature.
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 Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
Saturation (A3)
Sediment Deposits (B2) Recent Iron 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 (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)
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): 0 Wetland Hydrology Present? Yes No
(includes capillary fringe)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:
No continuous downstream or upstream connection.
Isolated to depressional feature.
Raised gravel road bed to the west impounds downstream connection.
Drainage pattern suggests input from adjacent parking/shop area.
2 ramago pattorn ouggooto input nom aujacom panting/emop arour

Sampling Point: Wetland S

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 \times 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

SOIL

Attachment to RFI 1-51, Page 151 of 316 Sampling Point: Wetland S

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Clay	ntrix. ic Hydric Soils³: RA 147) A16)
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Type: C=Concentration, D=Deplete Lining, M=Matrix. Type: C=Concentration, D=Depleted Lining, M=Matrix. Indicators for Problematic Hye 2 cm Muck (A10) (MLRA 147, 148) — 2 cm Muck (A10) (MLRA 147, 148) — Piedmont Floodplain Soils (MLRA 147, 148) — Piedmont Floodplain Soils (MLRA 147, 148) — Piedmont Floodplain Soils (MLRA 136, 147) — Red Parent Material (TF2) — Red Parent Material (TF2) — Red Parent Material (TF2) — Very Shallow Dark Surface — Very Shallow Dark Surface — Very Shallow Dark Surface (F13) (MLRA 136, 122) — Sandy Mucky Mineral (S1) (LRR N, MLRA 136) — MLRA 136) — Sandy Gleyed Matrix (S4) — Sandy Redox (S5) — Piedmont Floodplain Soils (F19) (MLRA 148) — Very Shallow Dark Surface —	ic Hydric Soils ³ : RA 147) A16)
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) 2 cm Muck (A10) (MLRA 148) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Thick Dark Surface (A11) Depleted Dark Surface (F6) Thick Dark Surface (A12) Redox Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Deiedmont Floodplain Soils (MLRA 147, 148) MLRA 147, 148) MLRA 147, 148) Sandy Mucky Mineral (S1) (LRR N, MLRA 136, 122) Sandy Redox (S5) Selfripped Matrix (S6) Destrictive Layer (if observed):	ic Hydric Soils ³ RA 147) A16)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Muck (A10) (MLRA 147, 148) Dorlyvalue Below Surface (S8) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Muck (A10) (LRR N) Depleted Matrix (F3) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) (MLRA 147, 148) (MLRA 136, 147) Piedmont Floodplain Soils (F8) Very Shallow Dark Surface	ic Hydric Soils ³ : RA 147) A16)
Histosol (A1)	ic Hydric Soils ³ : RA 147) A16)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Indicators for Problematic Hydrogen Problematic Hydrace (S7) Stratified (A10) (MLRA 147, 148) Loamy Gleyed Surface (S8) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Piedmont Floodplain Soils (MLRA 136, 147) Redox Dark Surface (F6) Redox Depressions (F8) Very Shallow Dark Surface (Y7) Other (Explain in Remarks) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be unless disturbed or problem estrictive Layer (if observed):	ic Hydric Soils ³ : RA 147) A16)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Indicators for Problematic Hydrogen Problematic Hydrace (S7) Stratified (A10) (MLRA 147, 148) Loamy Gleyed Surface (S8) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Piedmont Floodplain Soils (MLRA 136, 147) Redox Dark Surface (F6) Redox Depressions (F8) Very Shallow Dark Surface (Y7) Other (Explain in Remarks) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be unless disturbed or problem estrictive Layer (if observed):	ic Hydric Soils ³ : RA 147) A16)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S6) Estrictive Layer (if observed): Indicators for Problematic Hydrogen Problematic Hydrace (S7) Indicators for Problematic Hydrogen Problematic Hydrace (S7) Indicators for Problematic Hydrogen Sulficers for Muck (A10) (MLRA 148) Stripped Matrix (S4) Sulficers for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers (S5) (MLRA 147, 148) Sulficators for Problematic Hydrogen Sulficers (S5) (MLRA 146) Sulficators for Problematic Hydrogen Sulficers (S5) (MLRA 148) Wetland hydrology must be unless disturbed or problematic Hydrogen Sulficers for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Muck A147, 148) Wetland Hydrogen Muck A147, 148 Sulficators for Muck A147, 148 Sulficators	ic Hydric Soils ³ : RA 147) A16)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S6) Estrictive Layer (if observed): Indicators for Problematic Hydrogen Problematic Hydrace (S7) Indicators for Problematic Hydrogen Problematic Hydrace (S7) Indicators for Problematic Hydrogen Sulficers for Muck (A10) (MLRA 148) Stripped Matrix (S4) Sulficers for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers (S5) (MLRA 147, 148) Sulficators for Problematic Hydrogen Sulficers (S5) (MLRA 146) Sulficators for Problematic Hydrogen Sulficers (S5) (MLRA 148) Wetland hydrology must be unless disturbed or problematic Hydrogen Sulficers for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Muck A147, 148) Wetland Hydrogen Muck A147, 148 Sulficators for Muck A147, 148 Sulficators	ic Hydric Soils ³ : RA 147) A16)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Indicators for Problematic Hydrogen Problematic Hydrace (S7) Stratified (A10) (MLRA 147, 148) Loamy Gleyed Surface (S8) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Piedmont Floodplain Soils (MLRA 136, 147) Redox Dark Surface (F6) Redox Depressions (F8) Very Shallow Dark Surface (Y7) Other (Explain in Remarks) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be unless disturbed or problem estrictive Layer (if observed):	ic Hydric Soils ³ : RA 147) A16)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Murk A147, 148) Depleted Dark Surface (F13) (MLRA 136, 122) Stripped Matrix (S6) Indicators for Problematic Hydrogen Problematic Hydra 148 Indicators for Problematic Hydrogen Problematic Hydrogen Surface (A10) (MLRA 147, 148) Indicators for Problematic Hydrogen Hydrogen A19 Indicators for Problematic Hydrogen Hydrogen A19 Indicators for Problematic Hydrogen A19 Indicators fo	ic Hydric Soils ³ : RA 147) A16)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S6) Estrictive Layer (if observed): Indicators for Problematic Hydrogen Problematic Hydrace (S7) Indicators for Problematic Hydrogen Problematic Hydrace (S7) Indicators for Problematic Hydrogen Sulficers for Muck (A10) (MLRA 148) Stripped Matrix (S4) Sulficers for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers (S5) (MLRA 147, 148) Sulficators for Problematic Hydrogen Sulficers (S5) (MLRA 146) Sulficators for Problematic Hydrogen Sulficers (S5) (MLRA 148) Wetland hydrology must be unless disturbed or problematic Hydrogen Sulficers for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Problematic Hydrogen Sulficers for Muck A147, 148) Sulficators for Muck A147, 148) Wetland Hydrogen Muck A147, 148 Sulficators for Muck A147, 148 Sulficators	ic Hydric Soils ³ : RA 147) A16)
ydric Soil Indicators: _ Histosol (A1) _ Histic Epipedon (A2) _ Histic Epipedon (A2) _ Black Histic (A3) _ Hydrogen Sulfide (A4) _ Stratified Layers (A5) _ Depleted Matrix (F3) _ Depleted Below Dark Surface (F6) _ Thick Dark Surface (A12) _ Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) _ Sandy Redox (S5) _ Sandy Redox (S5) _ Stripped Matrix (S6) _ Stripped Matrix (S6) _ Stripped Matrix (S6) _ Depleted Surface (F13) (MLRA 136, 122) _ Sandy Redox (S5) _ Stripped Matrix (S6) _ Dark Surface (S9) (MLRA 147, 148) _ Coast Prairie Redox (A16) _ Coast Prairie Redox (A16) _ MLRA 147, 148) _ Coast Prairie Redox (A16) _ MLRA 147, 148) _ Coast Prairie Redox (A16) _ MLRA 147, 148) _ Piedmont Floodplain Soils (F2) _ Nedox Dark Surface (F6) _ Redox Dark Surface (F6) _ Redox Depressions (F8) _ Very Shallow Dark Surface _ Very Shallow Dark Surface _ Other (Explain in Remarks) _ Sandy Redox (S5) _ Piedmont Floodplain Soils (F19) (MLRA 148) _ Wetland hydrology must be unless disturbed or problem _ Stripped Matrix (S6) _ Unbric Surface (F13) (MLRA 148) _ Wetland hydrology must be unless disturbed or problem	ic Hydric Soils ³ : RA 147) A16)
ydric Soil Indicators: _ Histosol (A1) _ Histic Epipedon (A2) _ Histic Epipedon (A2) _ Black Histic (A3) _ Hydrogen Sulfide (A4) _ Stratified Layers (A5) _ Depleted Matrix (F3) _ Depleted Below Dark Surface (F6) _ Thick Dark Surface (A12) _ Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) _ Sandy Redox (S5) _ Sandy Redox (S5) _ Stripped Matrix (S6) _ Stripped Matrix (S6) _ Stripped Matrix (S6) _ Depleted Surface (F13) (MLRA 136, 122) _ Sandy Redox (S5) _ Stripped Matrix (S6) _ Dark Surface (S9) (MLRA 147, 148) _ Coast Prairie Redox (A16) _ Coast Prairie Redox (A16) _ MLRA 147, 148) _ Coast Prairie Redox (A16) _ MLRA 147, 148) _ Coast Prairie Redox (A16) _ MLRA 147, 148) _ Piedmont Floodplain Soils (F2) _ Nedox Dark Surface (F6) _ Redox Dark Surface (F6) _ Redox Depressions (F8) _ Very Shallow Dark Surface _ Very Shallow Dark Surface _ Other (Explain in Remarks) _ Sandy Redox (S5) _ Piedmont Floodplain Soils (F19) (MLRA 148) _ Wetland hydrology must be unless disturbed or problem _ Stripped Matrix (S6) _ Unbric Surface (F13) (MLRA 148) _ Wetland hydrology must be unless disturbed or problem	ic Hydric Soils ³ : RA 147) A16)
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Loamy Gleyed Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Piedmont Floodplain Soils (MLRA 136, 147) Redox Dark Surface (F6) Depleted Dark Surface (F7) Perpleted Dark Surface (F7) Sandy Mucky Mineral (S1) (LRR N, MLRA 136) Umbric Surface (F12) (LRR N, MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be unless disturbed or problem estrictive Layer (if observed):	RA 147) A16)
Histic Epipedon (A2)	A16)
	,
	Soils (F19)
Stratified Layers (A5)	Soils (F19)
2 cm Muck (A10) (LRR N)	
Depleted Below Dark Surface (A11)	TEO)
Thick Dark Surface (A12)	
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)	
MLRA 147, 148) _ Sandy Gleyed Matrix (S4) _ Sandy Redox (S5) _ Stripped Matrix (S6) estrictive Layer (if observed): MLRA 136) _ Umbric Surface (F13) (MLRA 136, 122) _ Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be unless disturbed or problem	uno,
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be unless disturbed or problem estrictive Layer (if observed):	
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be unless disturbed or problem estrictive Layer (if observed):	c vegetation and
Restrictive Layer (if observed):	-
	oblematic.
Type:	
Depth (inches): Hydric Soil Present? Yes	<u>√</u> No
emarks:	
lydric soil not evident at survey location. Prainage from adjacent parking area may be effecting color and odor of soil.	

Attachment to RFI 1-51, Page 152 of 316

Project/Site:Starfire Renewable Power Project City/C	ounty: Talcum, KY / Knott County Sampling Date: 11/7/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Upland S
Investigator(s): MB / JK Section	
Landform (hillslope, terrace, etc.): Terrace Local reli	
Landrollin (nilisiope, terrace, etc.)	-83 112620 - NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.412213	Long: Oct. 112020 Datum: 14/1000
Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percentage of the soil of the	
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly disturb	ped? Are "Normal Circumstances" present? Yes _ ✓ No
Are Vegetation, Soil, or Hydrology naturally problems	itic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing same	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Remarks:	Is the Sampled Area within a Wetland? Yes No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. Upland survey point for Wetland S. 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 (
High Water Table (A2) Hydrogen Sulfide Odd	
Saturation (A3) Oxidized Rhizosphere	
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reductio	n in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C	(C9) Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4) Other (Explain in Ren	narks) 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)	Wetland hydrology Present? Tes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	
Topography not conducive to wetland developmen	t.

00%	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Demisers	
3				Total Number of Dominant Species Across All Strata: (B)
4.					<i>'</i>
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0 (A	/B)
6				Prevalence Index worksheet:	
7					
8					
		= Total Cov	er	OBL species $\frac{0}{0}$ $x = \frac{0}{0}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. Juniperus virginiana	10	Υ	FACU	FAC species $0 x 3 = 0$	
2				FACU species 90 $x 4 = 360$	
3.				UPL species $0 x 5 = 0$	
				Column Totals: 90 (A) 360 (I	B)
4				Column Totals (A)	D)
5				Prevalence Index = $B/A = 4.0$	
6				Hydrophytic Vegetation Indicators:	
7					
8				1 - Rapid Test for Hydrophytic Vegetation	
9				2 - Dominance Test is >50%	
10				3 - Prevalence Index is ≤3.0 ¹	
	40	= Total Cov	or	4 - Morphological Adaptations ¹ (Provide support	ting
Herb Stratum (Plot size: 5ft)		- Total Cov	CI	data in Remarks or on a separate sheet)	
1 Lespedeza cuneata	80	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
···					
2				¹ Indicators of hydric soil and wetland hydrology mus	t
3				be present, unless disturbed or problematic.	
4				Definitions of Four Vegetation Strata:	
5				Tana Manda alanta avaludina vinas 2 in (7 C am)	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) more in diameter at breast height (DBH), regardless	
7				height.	
8					
9.				Sapling/Shrub – Woody plants, excluding vines, les than 3 in. DBH and greater than 3.28 ft (1 m) tall.	SS
				than 3 iii. DBH and greater than 3.26 it (1 iii) taii.	
10				Herb - All herbaceous (non-woody) plants, regardle	ss
				of size, and woody plants less than 3.28 ft tall.	
12				Woody vine – All woody vines greater than 3.28 ft in	n
Manda Vine Chrotium (Diet eine 30ft	80	= Total Cov	er	height.	
Woody Vine Stratum (Plot size: 30ft)					
1. <u>N/A</u>					
2					
3					
4				Lhudra mbudia	
5				Hydrophytic Vegetation	
6				Present? Yes No	
		= Total Cov			
Remarks: (Include photo numbers here or on a separate					
Hydrophytic vegetation has not develo	ped in th	e surve	y area.		

SOIL

Profile Desc	ription: (Describe	to the depti	n needed to docun	nent the i	ndicator o	r confirm	the abse	nce of indicators.)	
Depth	Matrix		Redox	x Features	3				
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>		
0-10	10yr 4/2	95					Sandy cla	ay w/ gravel inclusions	
	-							- -	_
-									
									_
-									
							2	_	
	oncentration, D=Dep	letion, RM=I	Reduced Matrix, MS	S=Masked	Sand Gra	ins.		PL=Pore Lining, M=Matrix.	3
Hydric Soil I							In	dicators for Problematic Hydric Soils	·:
Histosol			Dark Surface					_ 2 cm Muck (A10) (MLRA 147)	
	ipedon (A2)		Polyvalue Be		. , .		148)	Coast Prairie Redox (A16)	
Black His			Thin Dark Su			47, 148)		(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		F2)		_	_ Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
	Layers (A5) ck (A10) (LRR N)		Depleted Mat		.6)			Red Parent Material (TF2)	
	Below Dark Surfac	e (A11)	Depleted Dar		•			Very Shallow Dark Surface (TF12)	
	rk Surface (A12)	0 (7111)	Redox Depre					_ Other (Explain in Remarks)	
	ucky Mineral (S1) (LRR N,	Iron-Mangane			.RR N,			
	147, 148)	•	MLRA 130		, , ,	•			
	leyed Matrix (S4)		Umbric Surfa	ce (F13) (MLRA 130	5, 122)	;	Indicators of hydrophytic vegetation and	d
Sandy R	edox (S5)		Piedmont Flo				8)	wetland hydrology must be present,	
Stripped	Matrix (S6)							unless disturbed or problematic.	
	ayer (if observed)	:							
Type: Ro	ck								
Depth (inc	thes): 10						Hydric S	Soil Present? Yes No <u>√</u>	
Remarks:							1		
Hydric so	oil has not de	veloned	in the survey	area					
r rydrio oc	ni nao not ac	voloped	iii die salvey	arca.					

Attachment to RFI 1-51, Page 155 of 316

Project/Site:Starfire Renewable Power Project City/C	County: Talcum, KY / Knott County Sampling Date: 11/7/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Wetland T
AAD / HZ	on, Township, Range:
Landform (hillslope, terrace, etc.): Toe of slope Local reli	
Cubrasian (LDR or MLDA). LRR N Lat. 37.406628	Slope (76)
Subregion (LRR or MLRA): LRR N Lat: 37.406628 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percentage.	zent slopes stony
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 problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing same	ipling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes/ No Hydric Soil Present? Yes/ No Wetland Hydrology Present? Yes/ No Remarks:	Is the Sampled Area within a Wetland? Yes No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection	
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 (High Water Table (A2) Hydrogen Sulfide Ode	
✓ Saturation (A3) — Oxidized Rhizosphere	
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reductio	
Drift Deposits (B3) Thin Muck Surface (C	27) <u>✓</u> Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Ren	narks) 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) FAC-Neutral Test (D5)
Aquatic Fauna (B13) Field Observations:	FAC-Neutral Test (D5)
Surface Water Present? Yes No ✓ Depth (inches):	
Water Table Present? Yes No ✓ Depth (inches):	
Saturation Present? Yes Vo Depth (inches): 0	Wetland Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
B7, C9: See aerial maps	
Remarks:	
No continuous downstream or upstream connectio	n.
Isolated to depressional feature.	
Raised gravel road bed, to the west, impounds down	vnstream connection.

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 \times 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

Attachment to RFI 1-51, Page 157 of 316 Wetland T SOIL Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth (inches) Color (moist) Texture 95 w/ gravel inclusions 0-12 10yr 5/1 Silty clay ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: ___ 2 cm Muck (A10) (MLRA 147) ___ Histosol (A1) Dark Surface (S7) ___ Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) ___ Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) ___ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) ✓ Depleted Matrix (F3) ___ Stratified Layers (A5) (MLRA 136, 147) __ 2 cm Muck (A10) (LRR N) __ Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) _ Other (Explain in Remarks) ___ Sandy Mucky Mineral (S1) (LRR N, ___ Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) 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, unless disturbed or problematic. Stripped Matrix (S6) Restrictive Layer (if observed): Type: Hydric Soil Present? Yes Depth (inches): Remarks: Hydric soil with depleted matrix observed.

Attachment to RFI 1-51, Page 158 of 316

Project/Site: Starfire Renewable Power Project Cit	ty/County: Talcum, KY / K	Inott County	Sampling Date: 11/7/23
Applicant/Owner:STMO bn, LLC		State: KY	Sampling Point: Upland T
Investigator(s): MB / JK			
Landform (hillslope, terrace, etc.): Terrace Local			Slope (%): 0
Subregion (LRR or MLRA): LRR N Lat: 37.406847	Long: -83.	111708	Datum: NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.406847 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 p	percent slopes, stony	NWI classifica	ation: None
Are climatic / hydrologic conditions on the site typical for this time of year	? Yes No <u></u> ✓	(If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology significantly dis			
Are Vegetation, Soil, or Hydrology naturally proble			
SUMMARY OF FINDINGS - Attach site map showing s	ampling point location	ons, transects,	, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Remarks:	Is the Sampled Area within a Wetland?		No
Survey conducted during the "Wet Season". US, and "Incipient drought" for the date of assessme Upland survey point for Wetland T.		ws "Drier tha	an Normal" conditions
HYDROLOGY			
Wetland Hydrology Indicators:		-	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil (
Surface Water (A1) True Aquatic Plan			etated Concave Surface (B8)
High Water Table (A2) — Hydrogen Sulfide Saturation (A2) — Ovidized Phizagol		Drainage Pat	
	heres on Living Roots (C3)	Moss Trim Li	Nater Table (C2)
	ction in Tilled Soils (C6)	Crayfish Burn	
Drift Deposits (B3) Thin Muck Surface			sible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in			ressed Plants (D1)
Iron Deposits (B5)	,	Geomorphic	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquit	
Water-Stained Leaves (B9)			phic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral	
Field Observations:			
Surface Water Present? Yes No Depth (inches): _			
Water Table Present? Yes No Depth (inches): _			
Saturation Present? Yes No Depth (inches): _	Wetland F	lydrology Presen	t? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if ava	ilahle.	
20001100 1 10001100 2 2010 (0.102 gauge,	providuo in ap done	masio.	
Remarks:			
Topography not conducive to wetland developm	ent.		
1.0003.215			

00%	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Deminent	
3				Total Number of Dominant Species Across All Strata: 1 (B)
4.				(_,
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0	A/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Cove	r	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species	
3				UPL species $0 \times 5 = 0$	
				400 400	(D)
4				Column Totals: 100 (A) 400	(D)
5				Prevalence Index = B/A = 4.0	
6			-		
7				Hydrophytic Vegetation Indicators:	
8				1 - Rapid Test for Hydrophytic Vegetation	
9.				2 - Dominance Test is >50%	
				3 - Prevalence Index is ≤3.0 ¹	
10				4 - Morphological Adaptations ¹ (Provide suppo	orting
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	ŭ
1 Lespedeza cuneata	100	Y I	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
···					
2				¹ Indicators of hydric soil and wetland hydrology mu	.ot
3			-	be present, unless disturbed or problematic.	151
4				Definitions of Four Vegetation Strata:	
5.				Definitions of Four Vegetation Strata:	
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	n) or
6				more in diameter at breast height (DBH), regardles	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	225
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall.	less
12.	_			of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove	-	Woody vine - All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate			-		
Hydrophytic vegetation has not develop	ped in th	ie survey	area.		

Sampling Point: Upland T

SOIL

Profile Desc	ription: (Describe	to the dept	h needed to docun	nent the i	ndicator o	or confirm	the abse	nce of indicato	rs.)	
Depth	Matrix			x Features						
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture		Remarks	
0-5	10yr 4/2	90					Sandy cl	lay w/ gravel	inclusions	
										_
	-						-			
	-						-	· ·		
							-			
							-			
	-									_
							2			
		oletion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ins.		: PL=Pore Linin		
Hydric Soil I							In	ndicators for Pr	_	
Histosol			Dark Surface		(0-) (_ 2 cm Muck (A		47)
	pipedon (A2)		Polyvalue Be		. , .		148) _	_ Coast Prairie		
Black His			Thin Dark Su			47, 148)		(MLRA 14		(540)
	n Sulfide (A4)		Loamy Gleye		F2)		_	_ Piedmont Flo		(F19)
	Layers (A5) ck (A10) (LRR N)		Depleted Mat		.6)			(MLRA 13) Red Parent M		
	Below Dark Surfac	e (A11)	Depleted Dar				_	_ Ned Falent N _ Very Shallow		(TF12)
	ark Surface (A12)	,o (, t, i, j	Redox Depre				_	_ Other (Explai		
	lucky Mineral (S1) (LRR N.	Iron-Mangan			.RR N.	_			
	\ 147, 148)	,	MLRA 13		· / ·	•				
	leyed Matrix (S4)		Umbric Surfa	•	MLRA 130	6, 122)		³ Indicators of hy	drophytic veg	etation and
	edox (S5)		Piedmont Flo						ology must be	
Stripped	Matrix (S6)							unless disturb	oed or problen	natic.
	ayer (if observed)	:								
Type: Ro	ck									
Depth (inc	ches): <u>5</u>						Hydric	Soil Present?	Yes	No <u> </u>
Remarks:										
Hydric so	oil has not de	veloned	in the survey	area						
r ry arro oc	on mac mot ac	volopod	iii alo cal voy	aroa.						

Attachment to RFI 1-51, Page 161 of 316

Project/Site: <u>Starfire Renewable Power Project</u> City/County: T	alcum, KY / Knott County Sampling Date: 11/7/23
Applicant/Owner:STMO bn, LLC	State: KY Sampling Point: Wetland U
Investigator(s): MB / JK Section, Towns	
Landform (hillslope, terrace, etc.): Toe of slope Local relief (conca	
Subregion (LRR or MLRA): LRR N Lat: 37.407071 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 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 disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic?	
SUMMARY OF FINDINGS – Attach site map showing sampling p	point locations, transects, important features, etc.
Library Oct December 10	Sampled Area a Wetland? Yes No
Survey conducted during the "Wet Season". USACE APT and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection. Isola	
HYDROLOGY	
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation (A3) Oxidized Rhizospheres on Livi Water Marks (B1) Presence of Reduced Iron (C4 Sediment Deposits (B2) Recent Iron Reduction in Tilled Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Other (Explain in Remarks) Iron Deposits (B5) Other (Explain in Remarks) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches):	Dry-Season Water Table (C2) d Soils (C6) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	pections), if available:
Remarks: No continuous downstream or upstream connection. Isolated to depressional feature. Raised gravel road bed, to the south, impounds downstre	eam connection.

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 \times 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

SOIL

Sampling Point: Wetland U

Profile Desc	ription: (Describe	to the dept	h needed to docun	ent the indica	tor or confirm	the abs	sence of indicato	rs.)	
Depth	Matrix		Redox	Features					
(inches)	Color (moist)	%	Color (moist)	%Typ	e ¹ Loc ²	Text		Remarks	
0-10	10yr 5/1	95				Silty c	lay w/ grave	linclusions	
						-			
						-			
						-			
	-								
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	=Masked Sand	l Grains.		on: PL=Pore Linin		
Hydric Soil I	ndicators:						Indicators for Pr	oblematic Hyd	lric Soils ³ :
Histosol			Dark Surface	, ,				A10) (MLRA 14	7)
	pipedon (A2)			ow Surface (S8		148)	Coast Prairie	, ,	
Black Hi				face (S9) (MLF	RA 147, 148)		(MLRA 14		
	n Sulfide (A4)		Loamy Gleye	. ,				odplain Soils (F	-19)
	Layers (A5)		✓ Depleted Mat				(MLRA 13		
	ick (A10) (LRR N) d Below Dark Surfac	ο (Δ11)	Redox Dark S	k Surface (F7)			Red Parent N	Dark Surface (TF12\
	ark Surface (A12)	C (A11)	Redox Depre					n in Remarks)	,11 12)
	lucky Mineral (S1) (I	LRR N.		ese Masses (F1	2) (LRR N.		Other (Explain	iii iii rtoinano,	
	\ 147, 148)	,	MLRA 136		_, (,				
	leyed Matrix (S4)			ce (F13) (MLR /	A 136, 122)		3Indicators of hy	drophytic vege	tation and
	edox (S5)			odplain Soils (F		8)		ology must be p	
Stripped	Matrix (S6)						unless disturl	bed or problem	atic.
Restrictive I	ayer (if observed):								
Type: Ro	ck								
Depth (inc	ches): 10					Hydri	c Soil Present?	Yes ✓	No
Remarks:	, -								
	oil with deplete	ed matri	v observed						
Tryunc 30	on with acpice	cu main	A ODSCIVCU.						

Attachment to RFI 1-51, Page 164 of 316

Project/Site: Starfire Renewable Power Project City	//County: Talcum, KY / Kn	ott County S	Sampling Date: 11/7/23
Applicant/Owner:STMO bn, LLC		State: KY	Sampling Point: Upland U
Investigator(s): MB / JK Sec			- ,
Landform (hillslope, terrace, etc.): Terrace Local			Slope (%): 0
Subregion (LRR or MLRA): LRR N Lat: 37.407156	Long: -83.1	07146	Datum: NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.407156 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 pe	ercent slopes, stony	NWI classificat	ion: None
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes No _ 🗸 (If	no, explain in Rer	marks.)
Are Vegetation, Soil, or Hydrology significantly dist			
Are Vegetation, Soil, or Hydrology naturally proble			
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point location	ıs, transects, i	important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes No _✓ Yes No _✓	Is the Sampled Area within a Wetland?	Yes	
Survey conducted during the "Wet Season". USA and "Incipient drought" for the date of assessmer Upland survey point for Wetland U.		s "Drier thar	n Normal" conditions
HYDROLOGY			
Wetland Hydrology Indicators:	_		ors (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil Cr	
Surface Water (A1) True Aquatic Plant			tated Concave Surface (B8)
High Water Table (A2) Seturation (A3) Ovidized Phizopph		Drainage Patte	
	=	Moss Trim Line Dry-Season Water	
	tion in Tilled Soils (C6)	Crayfish Burrov	
Drift Deposits (B3) Thin Muck Surface			ble on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in R			essed 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	
Field Observations:			
Surface Water Present? Yes No ✓ Depth (inches):			
Water Table Present? Yes No Depth (inches):			./
Saturation Present? Yes No Depth (inches):	Wetland Hy	drology Present?	? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if availa	able:	
, 5 5	• •		
Remarks:			
Topography not conducive to wetland developme	ent.		
1 -1-3-1			

00%	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Deminent	
3				Total Number of Dominant Species Across All Strata: 1 (B)
4.				(_,
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0	A/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Cove	r	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species	
3				UPL species $0 \times 5 = 0$	
				400 400	(D)
4				Column Totals: 100 (A) 400	(D)
5				Prevalence Index = B/A = 4.0	
6			-		
7				Hydrophytic Vegetation Indicators:	
8				1 - Rapid Test for Hydrophytic Vegetation	
9.				2 - Dominance Test is >50%	
				3 - Prevalence Index is ≤3.0 ¹	
10				4 - Morphological Adaptations ¹ (Provide suppo	orting
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	ŭ
1 Lespedeza cuneata	100	Y I	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
···					
2				¹ Indicators of hydric soil and wetland hydrology mu	.ot
3			-	be present, unless disturbed or problematic.	151
4				Definitions of Four Vegetation Strata:	
5.				Definitions of Four Vegetation Strata:	
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	n) or
6				more in diameter at breast height (DBH), regardles	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	225
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall.	less
12.	_			of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove	-	Woody vine - All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate			-		
Hydrophytic vegetation has not develop	ped in th	ie survey	area.		

Sampling Point: Upland U

SOIL

Profile Desc	ription: (Describe	to the depti	n needed to docum	nent the i	ndicator o	or confirm	n the abse	ence of indicato	ors.)	
Depth	Matrix			x Features			_			
(inches)	Color (moist)	<u> </u>	Color (moist)	%	Type'	Loc ²	Textur		Remarks	
0-5	10yr 4/2	90					Sandy c	lay w/ grave	l inclusions	
										
				· ·						
				· ——			-	 -		
	-									
	oncentration, D=Dep	letion, RM=I	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		: PL=Pore Linin		
Hydric Soil I	ndicators:							ndicators for Pr		-
Histosol			Dark Surface	. ,				2 cm Muck (A		
	pipedon (A2)		Polyvalue Be				148) _	Coast Prairie)
Black His			Thin Dark Su			47, 148)		(MLRA 14		
	n Sulfide (A4)		Loamy Gleye	,	F2)		_	_ Piedmont Flo		s (F19)
	Layers (A5)		Depleted Mar		>			(MLRA 13		
· · · · · · · · · · · · · · · · · · ·	ck (A10) (LRR N)	- (0.4.4)	Redox Dark				_	Red Parent N		
	l Below Dark Surfac ark Surface (A12)	e (A11)	Depleted Dar Redox Depre				_	Very Shallow Other (Explain		
	lucky Mineral (S1) (I	DDN	Iron-Mangan			DD N	_	_ Other (Explai	III III Kelliaiks	>)
	147, 148)	LIXIX IN,	MLRA 13		es (1-12 <i>)</i> (1	-KK N,				
	leyed Matrix (S4)		Umbric Surfa	•	MI RΔ 13	6 122)		³ Indicators of hy	vdronhytic ve	getation and
	edox (S5)		Piedmont Flo				18)	wetland hydr		-
	Matrix (S6)		1 10011101101101	ouplant o	0110 (1 10)	(.0,	unless distur		
	ayer (if observed)								504 0. p.05.0	
Type: Ro										
Depth (inc							Hydric	Soil Present?	Yes	No ✓
	iles)						пуштс	Jon Fresent:	162	
Remarks:	21.1									
Hydric so	oil has not dev	velopea	in the survey	area.						

Attachment to RFI 1-51, Page 167 of 316

Project/Site: Starfire Renewable Power Project City/County: Talcur	m, KY / Knott County Sampling Date: 11/7/23
Applicant/Owner:STMO bn, LLC	State: KY Sampling Point: Wetland V
Investigator(s): MB / JK Section, Township, F	
Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, co	
Subregion (LRR or MLRA): LRR N Lat: 37.407591	ong: -83.106700 Datum: NAD83
Subregion (LRR or MLRA): LRR N Lat: 37.407591 Lat: Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percent slopes, s	stony NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No	o _ ✓ (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? Ar	re "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic? (If	
SUMMARY OF FINDINGS – Attach site map showing sampling point	t locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Is the Sampl Wetland Hydrology Present? Yes / No Within a Wet Remarks:	/
Survey conducted during the "Wet Season". USACE APT da and "Incipient drought" for the date of assessment. No continuous downstream or upstream connection. Isolated	
HYDROLOGY	
	Dry-Season Water Table (C2)
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection	
Remarks: No continuous downstream or upstream connection. Isolated to depressional feature. Raised gravel road bed, to the south, impounds downstream	

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 x 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

SOIL

Sampling Point: Wetland V

Profile Desc	ription: (Describe	to the dept	h needed to docun	nent the indica	tor or confirm	the abs	sence of indicato	rs.)	
Depth	Matrix		Redox	c Features					
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Typ	e ¹ Loc ²	Textu		Remarks	
0-11	10yr 5/1	95				Silty c	lay w/ grave	linclusions	
							· ·		_
									
						-			
		 -							-
						-			
	oncentration, D=Dep	letion, RM=I	Reduced Matrix, MS	=Masked Sand	Grains.		on: PL=Pore Linir		3
Hydric Soil I							Indicators for Pr	_	
Histosol			Dark Surface	, ,				A10) (MLRA 14	7)
	pipedon (A2)			ow Surface (S8		148)	Coast Prairie	, ,	
Black Hi				rface (S9) (MLF	RA 147, 148)		(MLRA 14		>
	n Sulfide (A4)		Loamy Gleye	. ,				odplain Soils (F	-19)
	Layers (A5)		✓ Depleted Mat				(MLRA 13		
	ick (A10) (LRR N) d Below Dark Surfac	ο (Δ11)	Redox Dark S	k Surface (F6)			Red Parent N	Dark Surface (TF12)
	ark Surface (A12)	C (ATT)	Redox Depre					n in Remarks)	,11 12)
	lucky Mineral (S1) (I	LRR N.		ese Masses (F1	2) (LRR N.			iii iii rtoinano,	
	\ 147, 148)	,	MLRA 136		_, (,				
	leyed Matrix (S4)			ce (F13) (MLR	A 136, 122)		³ Indicators of hy	drophytic vege	tation and
	edox (S5)			odplain Soils (F		8)		ology must be p	
Stripped	Matrix (S6)						unless distur	bed or problem	atic.
Restrictive I	ayer (if observed):								
Type: Ro	ck								
Depth (inc	ches): 11					Hydri	c Soil Present?	Yes ✓	No
Remarks:	, -					1 -			
	oil with deplete	ed matri	v observed						
Tryunc 30	on with acpice	cu main	A ODSCIVCU.						

Attachment to RFI 1-51, Page 170 of 316

Project/Site: Starfire Renewable Power Project Cit	y/County: Talcum, KY / K	nott County	Sampling Date: 11/7/23	
Applicant/Owner:STMO bn, LLC		State: KY	Sampling Point: Upland V	
Investigator(s): MB / JK				
Landform (hillslope, terrace, etc.): Terrace Local			Slope (%): 0	
Subregion (LRR or MLRA): LRR N Lat: 37.407507	Long: -83.	106698	Datum: NAD83	
Subregion (LRR or MLRA): LRR N Lat: 37.407507 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 p	ercent slopes, stony	NWI classifica	ation: None	
Are climatic / hydrologic conditions on the site typical for this time of year?	? Yes No <u>✓</u>	(If no, explain in Re	emarks.)	
Are Vegetation, Soil, or Hydrology significantly dis				
Are Vegetation, Soil, or Hydrology naturally proble				
SUMMARY OF FINDINGS - Attach site map showing s	ampling point location	ons, 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?		No ✓	
Survey conducted during the "Wet Season". US/ and "Incipient drought" for the date of assessme Upland survey point for Wetland V.		ws "Drier tha	an Normal" conditions	
HYDROLOGY				
Wetland Hydrology Indicators:		•	tors (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil Cracks (B6)		
Surface Water (A1) True Aquatic Plan		Sparsely Vegetated Concave Surface (B8)Drainage Patterns (B10)		
High Water Table (A2) Hydrogen Sulfide Oxidized Rhizospl	heres on Living Roots (C3)	Drainage Par		
Saturation (A3) Oxidized Rnizospi Water Marks (B1) Presence of Redu	= : :		Nater Table (C2)	
	ction in Tilled Soils (C6)	Crayfish Burn		
Drift Deposits (B3) Thin Muck Surface			sible on Aerial Imagery (C9)	
Algal Mat or Crust (B4) Other (Explain in I			ressed Plants (D1)	
Iron Deposits (B5)		Geomorphic		
Inundation Visible on Aerial Imagery (B7)		Shallow Aquit		
Water-Stained Leaves (B9)			phic Relief (D4)	
Aquatic Fauna (B13)		FAC-Neutral		
Field Observations:				
Surface Water Present? Yes No Depth (inches): _				
Water Table Present? Yes No Depth (inches): _				
Saturation Present? Yes No Depth (inches): _	Wetland H	lydrology Presen	t? Yes No <u></u> ✓	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if ava	ilahle [.]		
5000100 10000000 2000 (0.00000 gazaga,	providuoope 1,,	nac.c.		
Remarks:				
Topography not conducive to wetland development	ent			
Topography not conducte to trostalia develop	OH.			

00%	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Deminent	
3				Total Number of Dominant Species Across All Strata: 1 (B)
4.				(_,
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0	A/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Cove	r	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species	
3				UPL species $0 \times 5 = 0$	
				400 400	(D)
4				Column Totals: 100 (A) 400	(D)
5				Prevalence Index = B/A = 4.0	
6			-		
7				Hydrophytic Vegetation Indicators:	
8				1 - Rapid Test for Hydrophytic Vegetation	
9.				2 - Dominance Test is >50%	
				3 - Prevalence Index is ≤3.0 ¹	
10				4 - Morphological Adaptations ¹ (Provide suppo	orting
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	ŭ
1 Lespedeza cuneata	100	Y I	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
···					
2				¹ Indicators of hydric soil and wetland hydrology mu	.ot
3			-	be present, unless disturbed or problematic.	151
4				Definitions of Four Vegetation Strata:	
5.				Definitions of Four Vegetation Strata:	
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	n) or
6				more in diameter at breast height (DBH), regardles	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	225
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall.	less
12.	_			of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove	-	Woody vine - All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate			-		
Hydrophytic vegetation has not develop	ped in th	ie survey	area.		

Sampling Point: Upland V

SOIL

Profile Desc	ription: (Describe	to the dept	h needed to docun	nent the i	ndicator o	or confirm	the abse	nce of indicato	ors.)	
Depth	Matrix			x Features						
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Textur		Remarks	
0-8	10yr 4/2	90					Sandy c	lay w/ grave	l inclusions	
										_
							-			
										_
								 -		
	_						-			_
										
		oletion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ins.		: PL=Pore Linin		3
Hydric Soil I							Ir	ndicators for Pr	_	
Histosol			Dark Surface				_	2 cm Muck (A		
	pipedon (A2)		Polyvalue Be		. , .		148) _	_ Coast Prairie		
Black His	, ,		Thin Dark Su			47, 148)		(MLRA 14		(540)
	n Sulfide (A4)		Loamy Gleye		F2)		_		odplain Soils	(F19)
	Layers (A5) ck (A10) (LRR N)		Depleted Mat		.6)			(MLRA 13	Naterial (TF2)	
	Below Dark Surfac	e (A11)	Depleted Dar						Dark Surface	(TF12)
	rk Surface (A12)	,o (, t, i, j	Redox Depre						in in Remarks	
	lucky Mineral (S1) (LRR N,	Iron-Mangan			.RR N,	_	(,
	. 147, 148)	·	MLRA 13		· , ,	·				
	leyed Matrix (S4)		Umbric Surfa	ce (F13) (MLRA 130	6, 122)		³ Indicators of hy	drophytic veg	getation and
Sandy R	edox (S5)		Piedmont Flo				8)	wetland hydr	ology must be	present,
Stripped	Matrix (S6)							unless disturl	bed or probler	matic.
	ayer (if observed)	:								
Type: Ro	ck									
Depth (inc	ches): <u>8</u>						Hydric	Soil Present?	Yes	No <u> </u>
Remarks:										
Hydric so	oil has not de	veloned	in the survey	area						
r ry arro oc	on mac mot ac	volopod	iii alo calvoy	aroa.						

Attachment to RFI 1-51, Page 173 of 316

Project/Site:Starfire Renewable Power Project City/C	County: Talcum, KY / Knott County Sampling Date: 11/7/23					
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Wetland W					
14B / H/	on, Township, Range:					
Landform (hillslope, terrace, etc.): Toe of slope Local rel						
Subragion (LRR or MLRA): LRR N Lat: 37.420591	Long83.106636 Detum: NAD83					
Subregion (LRR or MLRA): LRR N Lat: 37.420591 Long: -83.106636 Datum: NAD83 Soil Map Unit Name: KFF—Kaymine, Fairpoint, and Fiveblock soils, benched, 2 to 70 percent slopes, very stony NWI classification: None						
Are climatic / hydrologic conditions on the site typical for this time of year? Y						
	bed? Are "Normal Circumstances" present? Yes ✓ No					
Are Vegetation, Soil, or Hydrology naturally problems	atic? (If needed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS - Attach site map showing san	ipling point locations, transects, important features, etc.					
and "Incipient drought" for the date of assessment						
No continuous downstream or upstream connection	n. Isolated feature.					
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 (_ , , , ,					
High Water Table (A2) Hydrogen Sulfide Od						
✓ Saturation (A3) Oxidized Rhizospher						
Water Marks (B1) Presence of Reduced Sediment Deposits (B2) Recent Iron Reduction						
Drift Deposits (B3) Thin Muck Surface (0						
Algal Mat or Crust (B4) Other (Explain in Rer						
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 Vo Depth (inches): 0						
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:					
Remarks:						
	n					
No continuous downstream or upstream connection	11.					
Isolated to depressional feature. Raised gravel road bed, to the east, impounds down	unstroom connection					
Adjacent oversized drainage basin to the east was						
survey and no indications of downstream connecti	JIIS WEIG UDSEIVEU.					

Sampling Point: Wetland W

20ft	Absolute	Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size: 30ft) 1. N/A		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 1	(A)
2. 3.				Total Number of Dominant Species Across All Strata: 1	(B)
4. 5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100	(A/B)
6					. ,
7				Prevalence Index worksheet:	
8				Total % Cover of: Multiply by:	_
		= Total Cov		OBL species $\frac{100}{x}$ $x = \frac{100}{x}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. <u>N/A</u>				FAC species $0 \times 3 = 0$	
2				FACU species $0 x 4 = 0$	_
3				UPL species $0 x 5 = 0$	
4				Column Totals: 100 (A) 100	(B)
5					_ ` ′
6				Prevalence Index = $B/A = 1.0$	
				Hydrophytic Vegetation Indicators:	
7					
8				✓ 2 - Dominance Test is >50%	
9				✓ 3 - Prevalence Index is ≤3.0 ¹	
10		= Total Cov		4 - Morphological Adaptations ¹ (Provide sup data in Remarks or on a separate sheet)	
Herb Stratum (Plot size: 5ft)				Problematic Hydrophytic Vegetation ¹ (Expla	
1. Typha angustifolia	100	<u>Y</u>	OBL	residination flyarophytic regulation (Explo	,
2				¹ Indicators of hydric soil and wetland hydrology	must
3				be present, unless disturbed or problematic.	must
4				Definitions of Four Vegetation Strata:	
5.				Definitions of Four Vegetation Strata.	
6				Tree – Woody plants, excluding vines, 3 in. (7.6	
				more in diameter at breast height (DBH), regard	less of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines	
9				than 3 in. DBH and greater than 3.28 ft (1 m) tal	l.
10				Herb – All herbaceous (non-woody) plants, rega	ardless
11				of size, and woody plants less than 3.28 ft tall.	
12				Woody vine All woody vines greater than 2.20	0 ft in
Woody Vine Stratum (Plot size: 30ft)	100	= Total Cov	rer	Woody vine – All woody vines greater than 3.28 height.	3 11 111
1. N/A					
2					
3					
4					
5				Hydrophytic Vegetation	
6				Present? Yes No	
-		= Total Cov	er		
Remarks: (Include photo numbers here or on a separate	<u> </u>				
Hydrophytic vegetation has developed	l in surve	y area.			

SOIL

Sampling Point: Wetland W

Profile Desc	ription: (Describe	to the depti	n needed to docun	nent the indica	tor or confirm	the ab	sence of indicators	s.)	
Depth	Matrix		Redo	x Features					
(inches)	Color (moist)	%	Color (moist)	%Typ	e ¹ Loc ²	Text	ure	Remarks	
0-8	10yr 5/1	95				Silty o	lay w/ gravel i	nclusions	
									
						-			
						-			
¹Type: C=Co	oncentration, D=Dep	letion RM=I	Reduced Matrix MS	S=Masked Sand	Grains	² Locatio	on: PL=Pore Lining,	M=Matrix	
Hydric Soil		//ouori, ruvi—i	toddood WidthX, Wie	-Macroa Carra	Oranio.	Locali	Indicators for Prol		ric Soils³:
Histosol			Dark Surface	(S7)			2 cm Muck (A1	_	
	pipedon (A2)			low Surface (S8) (MI RA 147	148)	Coast Prairie R	, .	,
Black Hi				rface (S9) (MLF		140)	(MLRA 147,	. ,	
	n Sulfide (A4)		Loamy Gleye		, ,		Piedmont Floor		19)
	Layers (A5)		✓ Depleted Mat				(MLRA 136,		,
	ick (A10) (LRR N)		Redox Dark S				Red Parent Ma		
	Below Dark Surfac	e (A11)		k Surface (F7)			Very Shallow D	, ,	TF12)
	ark Surface (A12)	` ,	Redox Depre				Other (Explain		,
	lucky Mineral (S1) (LRR N,		ese Masses (F1	2) (LRR N ,			,	
	\ 147, 148)		MLRA 13		, ,				
	leyed Matrix (S4)			ce (F13) (MLR<i>A</i>	136, 122)		³ Indicators of hyd	rophytic veget	ation and
	edox (S5)			odplain Soils (F		l8)	wetland hydrol		
Stripped	Matrix (S6)						unless disturbe	ed or problema	itic.
Restrictive I	ayer (if observed)								
Type: Ro	ck								
Depth (inc	ches): 8					Hvdri	c Soil Present?	Yes ✓	No
Remarks:	,								
	sil with doplot	od motri	v observed						
nyunc so	oil with deplet	eu main	x observed.						

Attachment to RFI 1-51, Page 176 of 316

Project/Site:Starfire Renewable Power Project Cit	ty/County: Talcum, KY / K	nott County	Sampling Date: 11/7/23			
Project/Site: Starfire Renewable Power Project Cit Applicant/Owner: STMO bn, LLC		State: KY	Sampling Point: Upland W			
Investigator(s): MB / JK						
Landform (hillslope, terrace, etc.): Toe of slope Local			Slone (%): 0-2			
Subragian (LRR or MLPA): LRR N	Long83.	106651	Datum: NAD83			
Subregion (LRR or MLRA): LRR N Lat: 37.420429 Soil Map Unit Name: KfF—Kaymine, Fairpoint, and Fiveblock soils, benched,	2 to 70 percent slopes, very sto	ony NWI classific	ation. None			
Are climatic / hydrologic conditions on the site typical for this time of year?						
Are Vegetation, Soil, or Hydrology significantly dis						
Are Vegetation, Soil, or Hydrology naturally proble SUMMARY OF FINDINGS - Attach site map showing sa						
	<u> </u>	110, 110111111	,			
Hydrophytic Vegetation Present? Yes No V	Is the Sampled Area		./			
Hydric Soil Present? Yes No/ Wetland Hydrology Present? Yes No/	within a Wetland?	Yes	No			
Remarks:						
Survey conducted during the "Wet Season". USA and "Incipient drought" for the date of assessment Upland survey point for Wetland W.		ws "Drier tha	an Normal" conditions			
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)				
Surface Water (A1) True Aquatic Plant		Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2) Hydrogen Sulfide		Drainage Patterns (B10)				
		Moss Trim Li				
Water Marks (B1) Presence of Redu		Dry-Season \	Water Table (C2)			
	ction in Tilled Soils (C6)	Crayfish Burr				
Drift Deposits (B3) Thin Muck Surface			sible on Aerial Imagery (C9)			
Algal Mat or Crust (B4) Other (Explain in F Iron Deposits (B5)	Remarks)	Stunted or St Geomorphic	ressed Plants (D1)			
Inundation Visible on Aerial Imagery (B7)						
Water-Stained Leaves (B9)		<pre> Shallow Aquitard (D3) Microtopographic Relief (D4)</pre>				
Aquatic Fauna (B13)		FAC-Neutral	· · · · · · · · · · · · · · · · · · ·			
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)	Wetland H	ydrology Presen	t? Yes No ✓			
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if avai	lable:				
Remarks:						
Topography not conducive to wetland developme	ent.					

00%	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0	۹)
2				Total Number of Deminent	
3				Total Number of Dominant Species Across All Strata: (E	3)
4.				(-,
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0	4/B)
6				Prevalence Index worksheet:	
7					
8					
		= Total Cove	r	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 x 3 = 0$	
2.				FACU species	
3				UPL species $0 x 5 = 0$	
				70 200	(D)
4				Column Totals: 70 (A) 280	(D)
5				Prevalence Index = $B/A = 4.0$	
6					
7				Hydrophytic Vegetation Indicators:	
8				1 - Rapid Test for Hydrophytic Vegetation	
9				2 - Dominance Test is >50%	
				3 - Prevalence Index is ≤3.0 ¹	
10				4 - Morphological Adaptations ¹ (Provide support	rting
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
	70	V [FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
···					
2				¹ Indicators of hydric soil and wetland hydrology mus	o.t
3				be present, unless disturbed or problematic.	51
4				Definitions of Four Vegetation Strata:	
5.				Definitions of Four Vegetation Strata:	
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	n) or
6				more in diameter at breast height (DBH), regardless	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	ss
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall.	ess
12.	_			of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove	-	Woody vine – All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate			-		
Hydrophytic vegetation has not develo	ped in th	ie survey	area.		

Sampling Point: Upland W

SOIL

Profile Desc	ription: (Describe	to the depti	n needed to docur	nent the i	ndicator o	or confirm	n the abse	nce of indicato	ors.)	
Depth	Matrix			x Features		. 2				
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	Texture		Remarks	
0-5	10yr 4/3	90					Sandy cl	w/ grave	l inclusions	
							-			
								 -		
										
1Type: C-Co	oncentration, D=Dep	letion RM-F	Reduced Matrix MS	S-Maskad	Sand Gra	ine	² Location	: PL=Pore Linin	na M-Matrix	
Hydric Soil		netion, ixivi–i	veduced Matrix, Mc	J-IVIASKEU	Sand Ora	11113.		idicators for Pr		
Histosol			Dark Surface	(\$7)				_ 2 cm Muck (A		-
	pipedon (A2)		Polyvalue Be	. ,	ce (S8) (M	LRA 147.		Coast Prairie		
Black Hi			Thin Dark Su				,	(MLRA 14		,
	n Sulfide (A4)		Loamy Gleye			, -,		_ Piedmont Flo		s (F19)
	d Layers (A5)		Depleted Ma	,	,			 (MLRA 13		,
2 cm Mu	ick (A10) (LRR N)		Redox Dark	Surface (F	6)		_	_ Red Parent N	Material (TF2))
	d Below Dark Surfac	e (A11)	Depleted Dar				_	Very Shallow		
	ark Surface (A12)		Redox Depre				_	_ Other (Explai	in in Remark	s)
	lucky Mineral (S1) (I	LRR N,	Iron-Mangan		es (F12) (I	_RR N,				
	A 147, 148)		MLRA 13	•				3		
	Sleyed Matrix (S4)		Umbric Surfa					³ Indicators of hy		-
	ledox (S5)		Piedmont Flo	odplain S	oils (F19)	(MLRA 14	18)	wetland hydr		
	Matrix (S6) _ayer (if observed)						1	unless distur	bed or proble	matic.
Type: Ro		•								
Depth (inc							Lludria	Sail Brasant?	Vaa	No ✓
	ches): <u> </u>						nyuric	Soil Present?	Yes	NO _ ·
Remarks:										
Hyaric so	oil has not de	velopea	in the survey	area.						

Attachment to RFI 1-51, Page 179 of 316

Project/Site:Starfire Renewable Power Project City/C	ounty: Talcum, KY / Knott County Sar	mpling Date: 11/7/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY	Sampling Point: Wetland X
MD / HZ	n, Township, Range:	
Landform (hillslope, terrace, etc.): Toe of slope Local reli		Slone (%): 0-2
Subregion (LRR or MLRA): LRR N Lat: 37.414503	Lang: -83.103172	Datum: NAD83
Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percentage.	ent slopes, stony	". None
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 problems	tic? (If needed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach site map showing same	pling point locations, transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Yes/ No Hydric Soil Present? Yes/ No Wetland Hydrology Present? Yes/ No Remarks: Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment.	Is the Sampled Area within a Wetland? Yes ✓ E APT data shows "Drier than	
No continuous downstream connection. Isolated fe	ature.	
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indicators	(minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Crac	
Surface Water (A1) True Aquatic Plants (ted Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odd		
✓ Saturation (A3) Oxidized Rhizosphere Water Marks (B1) Presence of Reduced		
Sediment Deposits (B2) Recent Iron Reductio		
Drift Deposits (B3) Thin Muck Surface (C		e on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Ren		
Iron Deposits (B5)	✓ Geomorphic Position	ition (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard	
Water-Stained Leaves (B9)	Microtopographic	
Aquatic Fauna (B13)	FAC-Neutral Tes	it (D5)
Field Observations: Surface Water Present? Yes No _ ✓ Depth (inches):		
Water Table Present? Yes No ✓ Depth (inches):		
Saturation Present? Yes No Depth (inches): 0	Wetland Hydrology Present?	Yes V No
(includes capillary fringe)		103 110
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:	
Remarks:		
No continuous downstream connection.		
Isolated to depressional feature.		
Adjacent oversized drainage basin to the east was	dry with unland characteristics	at the time of the
survey and no indications of downstream connections		at the time of the
Ephemeral road ditch from north of the survey area		ıt durina
precipitation.	would provide rigarologic ilipu	it during
prodipitation.		

0.0%	Absolute			Dominance Test worksheet:	٦
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 1 (A)	
2					
3				Total Number of Dominant Species Across All Strata: 1 (B)	
4.				(2)	
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/B)	
6				Prevalence Index worksheet:	ᅱ
7					
8				Total % Cover of: Multiply by:	
		= Total Cove		OBL species $\frac{100}{2}$ $\times 1 = \frac{100}{2}$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species $0 x 4 = 0$	
3				UPL species $0 x 5 = 0$	
				400	
4				Column Totals: 100 (A) 100 (B)	
5				Prevalence Index = B/A = 1.0	
6					4
7				Hydrophytic Vegetation Indicators:	
8				√ 1 - Rapid Test for Hydrophytic Vegetation	
9.				∠ 2 - Dominance Test is >50%	
10				4 - Morphological Adaptations ¹ (Provide supporting	,
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	
1 Typha angustifolia	100	V	OBL	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:	\dashv
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 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove		Woody vine - All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					ᅱ
2					
3					
4				Hydrophytic	
5			-	Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate	·		-		4
Hydrophytic vegetation has developed	in surve	y area.			

SOIL

, macinion to the first age for or or or	wetland X
	Sampling Point: Welland A

Depth	Matrix	%	Redox Features	Texture	Demonto
nches) -12	Color (moist) 10yr 5/1	<u>%</u> 90	Color (moist) % Type ¹ Lo	oc² <u>Texture</u> Silty clay	
12	1091 3/1	_ = 0		Silty Clay	W/ graver inclusions
					_
vne: C=C	Concentration D=De	enletion RM-R	Reduced Matrix, MS=Masked Sand Grains.	² Location:	PL=Pore Lining, M=Matrix.
	Indicators:	piction, ravi=ra	caacca Matrix, Mo-Maskea Garia Grains.		licators for Problematic Hydric Soils ³ :
Histoso			Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)
_	pipedon (A2)		Polyvalue Below Surface (S8) (MLRA	 4 147 148)	Coast Prairie Redox (A16)
	listic (A3)		Thin Dark Surface (S9) (MLRA 147,		(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	,	Piedmont Floodplain Soils (F19)
	d Layers (A5)		✓ Depleted Matrix (F3)		(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark Surface (F6)		Red Parent Material (TF2)
	ed Below Dark Surfa	ace (A11)	Depleted Dark Surface (F7)		Very Shallow Dark Surface (TF12)
_ Thick D	ark Surface (A12)		Redox Depressions (F8)		Other (Explain in Remarks)
_ Sandy I	Mucky Mineral (S1)	(LRR N,	Iron-Manganese Masses (F12) (LRR	Ν,	
MLR	A 147, 148)		MLRA 136)		
	Gleyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 12	22) 3	Indicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Floodplain Soils (F19) (MLI	RA 148)	wetland hydrology must be present,
	d Matrix (S6)				unless disturbed or problematic.
estrictive	Layer (if observed	i):			
Type:			<u> </u>		
Depth (in	iches):			Hydric S	oil Present? Yes <u>√</u> No
emarks:				I	
ydric s	oil with deple	ted matrix	cobserved.		

Attachment to RFI 1-51, Page 182 of 316

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site:Starfire Renewable Power Project City/C	ounty: Talcum, KY / Knott County Sampling Date: 11/7/23
Project/Site: <u>Starfire Renewable Power Project</u> City/C Applicant/Owner: <u>STMO bn, LLC</u>	State: KY Sampling Point: Upland X
AAD / HZ	on, Township, Range:
Landform (hillslope, terrace, etc.): Toe of slope Local reli	
Landionn (nilisiope, terrace, etc.)	-83 103458 Supple (%)
Subregion (LRR or MLRA): LRR N Lat: 37.414360 Soil Map Unit Name: FkE—Fiveblock and Kaymine soils, 0 to 30 percentage.	Long: Oct. 1999 Datum: 14/1999
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly disturb	ped? Are "Normal Circumstances" present? Yes _ ✓ No
Are Vegetation, Soil, or Hydrology naturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing same	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Remarks:	Is the Sampled Area within a Wetland? Yes No
Survey conducted during the "Wet Season". USAC and "Incipient drought" for the date of assessment. Upland survey point for Wetland X. 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 (
High Water Table (A2) Hydrogen Sulfide Odd	
Saturation (A3) Oxidized Rhizosphere	
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reductio	n in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C	(C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Ren	narks) 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 V Depth (inches):	
(includes capillary fringe)	Wetland hydrology Present? Tes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	
Topography not conducive to wetland developmen	t.

Sampling Point: Upland X

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

00%	Absolute			Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1. N/A				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Deminent	
3				Total Number of Dominant Species Across All Strata: 1 (B)
4.				(_,
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0	A/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
		= Total Cove	r	OBL species $0 \times 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15ft)				FACW species $0 x 2 = 0$	
1. N/A				FAC species $0 \times 3 = 0$	
2.				FACU species	
3				UPL species $0 \times 5 = 0$	
				400 400	(D)
4				Column Totals: 100 (A) 400	(D)
5				Prevalence Index = B/A = 4.0	
6			-		
7				Hydrophytic Vegetation Indicators:	
8				1 - Rapid Test for Hydrophytic Vegetation	
9.				2 - Dominance Test is >50%	
				3 - Prevalence Index is ≤3.0 ¹	
10				4 - Morphological Adaptations ¹ (Provide suppo	orting
Herb Stratum (Plot size: 5ft)		= Total Cove	r	data in Remarks or on a separate sheet)	ŭ
1 Lespedeza cuneata	100	Y I	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
···					
2				¹ Indicators of hydric soil and wetland hydrology mu	.ot
3				be present, unless disturbed or problematic.	151
4				Definitions of Four Vegetation Strata:	
5.				Definitions of Four Vegetation Strata:	
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	n) or
6				more in diameter at breast height (DBH), regardles	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	225
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall.	less
12.	_			of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cove	-	Woody vine - All woody vines greater than 3.28 ft	in
Woody Vine Stratum (Plot size: 30ft)		= Total Cove	I	height.	
4 N/Δ					
2					
3					
4				Hydrophytic	
5				Vegetation	
6				Present? Yes No	
		= Total Cove			
Remarks: (Include photo numbers here or on a separate			-		
Hydrophytic vegetation has not develop	ped in th	ie survey	area.		

Sampling Point: Upland X

SOIL Sampli

Profile Desc	ription: (Describe	to the depth	needed to docun	nent the in	dicator o	r confirm	the abs	sence of	f indicato	rs.)		
Depth	Matrix			K Features								
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Text			Remark		
0-10	10yr 4/2	90					Sandy	clay \	w/ gravel	inclusion	s	
							-					
							-					
	-											
	oncentration, D=Dep	letion, RM=F	Reduced Matrix, MS	=Masked	Sand Grai	ns.				g, M=Matri		3
Hydric Soil I										oblematic	-	Soils":
Histosol			Dark Surface							(10) (MLR		
	pipedon (A2)		Polyvalue Be				148)			Redox (A1	6)	
Black Hi			Thin Dark Su	, ,	•	17, 148)			MLRA 14		(= (=)	
	n Sulfide (A4)		Loamy Gleye		2)					odplain So	ils (F19)	
	d Layers (A5) ick (A10) (LRR N)		Depleted Mat		2)				MLRA 13	5, 147) 1aterial (TF	.07	
	d Below Dark Surfac	Δ (Δ11)	Depleted Dar							Dark Surfa		2)
	ark Surface (A12)	0 (7111)	Redox Depre							n in Remar		-)
	lucky Mineral (S1) (L	RR N.	Iron-Mangane			RR N.			.o. (=,,p.a.		,	
	147, 148)	,	MLRA 130		- () (,						
	leyed Matrix (S4)		Umbric Surfa	•	/ILRA 136	, 122)		3Indica	ators of hy	drophytic v	egetatio	n and
	edox (S5)		Piedmont Flo	odplain So	ils (F19) (MLRA 14	8)	wet	land hydro	ology must	be prese	ent,
Stripped	Matrix (S6)							unle	ess disturb	oed or prob	lematic.	
	_ayer (if observed):											
Type: Ro	ck											
Depth (inc	ches): 10		<u></u>				Hydri	c Soil P	resent?	Yes	No	✓
Remarks:							· I					
Hydric so	oil has not dev	/eloped i	n the survey	area								
,		. с. с р с с										

Attachment to RFI 1-51, Page 185 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Pro	oject	City/County: Perry Co	unty	Sampling Date: 11	/06/2023
Applicant/Owner: STMO bn, LLC		<u> </u>		KY Sampling Point: W	etland Z
Investigator(s): L Darnell, B Gibbons		Section, Township, Range			
Landform (hillside, terrace, etc.): Terrace	Lc	cal relief (concave, convex,	•	Slope (%):	0
Subregion (LRR or MLRA): LRR N, MLRA			-83.1421085	Datum:	
Soil Map Unit Name: FaB	120 Lat. 37.4021033	Long.		sification: No	
· -					
Are climatic / hydrologic conditions on the sit				f no, explain in Remarks.)	
Are Vegetation, Soil, or Hydro	ologysignificantly di	sturbed? Are "Normal (Circumstances" pre	esent? Yes X N	o
Are Vegetation, Soil, or Hydro	ologynaturally probl	ematic? (If needed, ex	plain any answers	in Remarks.)	
SUMMARY OF FINDINGS – Attach	ı site map showing s	sampling point locati	ons, transects	i, important features	s, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area			
Hydric Soil Present?	Yes X No	within a Wetland?	Yes	X No	
Wetland Hydrology Present?	Yes X No				
Survey conducted during the "Wet Season. assessment.					
HYDROLOGY			0 1 1 "		
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requ	ired: sheek all that apply)		Secondary Indica	ators (minimum of two req	<u>uired)</u>
Surface Water (A1)	True Aquatic Plants	(B14)		getated Concave Surface	(B8)
High Water Table (A2)	Hydrogen Sulfide Od		Drainage Pa	=	(50)
Saturation (A3)		res on Living Roots (C3)	Moss Trim Li		
Water Marks (B1)	Presence of Reduce	=		Water Table (C2)	
Sediment Deposits (B2)	Recent Iron Reduction	on in Tilled Soils (C6)	Crayfish Buri	rows (C8)	
Drift Deposits (B3)	Thin Muck Surface (C7)	Saturation V	isible on Aerial Imagery (C	29)
X Algal Mat or Crust (B4)	Other (Explain in Re	marks)	Stunted or S	tressed Plants (D1)	
Iron Deposits (B5)				Position (D2)	
Inundation Visible on Aerial Imagery (B	7)		Shallow Aqu	·	
Water-Stained Leaves (B9)				aphic Relief (D4)	
Aquatic Fauna (B13)			X FAC-Neutral	Test (D5)	
Field Observations:	No. V. Double (in als	\			
Surface Water Present? Yes Water Table Present? Yes	No X Depth (inch				
Saturation Present? Yes	No X Depth (inch		Hydrology Preser	nt? Yes X N	0
(includes capillary fringe)	Tro X Bopan (mon	Would be	,	100 <u>//</u>	
Describe Recorded Data (stream gauge, ma	onitoring well, aerial photos	s, previous inspections), if a	ıvailable:		
Remarks:					

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species
2				That Are OBL, FACW, or FAC: 2 (A)
3				Total Number of Dominant
4				Species Across All Strata: 2 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
<i>l</i>		-Tatal Causan		Prevalence Index worksheet:
F00/ of total acres		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 43 x 1 = 43 FACW species 20 x 2 = 40
Sapling/Shrub Stratum (Plot size: 15) 1.				FAC species 0 x 3 = 0
2.				FACU species 0 x 4 = 0
3.	•			UPL species 0 x 5 = 0
4				Column Totals: 63 (A) 83 (B)
5.	•			Prevalence Index = B/A = 1.32
6.	•	-		Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
8.		-		X 2 - Dominance Test is >50%
9.		-		X 3 - Prevalence Index is ≤3.0 ¹
· -		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20%	of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Typha angustifolia	40	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must be
2. Scirpus cyperinus	20	Yes	FACW	present, unless disturbed or problematic.
3. Juncus acuminatus	3	No	OBL	Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of
6.				height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				` '
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.	63	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 3:		of total cover:	13	height.
Woody Vine Stratum (Plot size: 30)		or total cover.		
1				
2.		-		
3.				
4.				
5.				Undrankadia
		=Total Cover		Hydrophytic Vegetation
50% of total cover:	20%	of total cover:		Present? Yes X No No
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			•
	,			

Sampling Point:

Wetland Z

SOIL Sampling Point: Wetland Z

Profile Desc	ription: (Describe	to the dep				ator or co	onfirm the absence	of indica	tors.)	
Depth	Matrix			Featur						
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	s
0-4	10YR 4/1	95	10YR 4/4	5	С	М	Loamy/Clayey	Dist	tinct redox con	centrations
										-
							•			_
1	D. D. D.	lation DM	Deduced Metric M				21 41-		I in in NA	- 4
	ncentration, D=Dep	letion, RM	Reduced Matrix, M	S=Mas	ked Sand	Grains.			re Lining, M=M	
Hydric Soil I			Dobarduo Ro	love Con	rface (CO)	/MI DA				Hydric Soils ³ :
Histosol	` '		Polyvalue Be Thin Dark Su			-			k (A10) (MLR<i>A</i> airie Redox (A1	-
Black His	ipedon (A2)		Loamy Muck						147, 148)	6)
	n Sulfide (A4)		Loamy Gleye			ILIXA 13	<i>)</i> ,		Floodplain Soi	le (F10)
	Layers (A5)		X Depleted Mat					•	136, 147)	15 (1 10)
	ck (A10) (LRR N)		Redox Dark S					-	nt Material (F2 ⁻	1)
	Below Dark Surface	e (A11)	Depleted Dar					•	e MLRA 127, 1	-
Thick Da	rk Surface (A12)	, ,	Redox Depre					Very Shal	low Dark Surfa	ce (F22)
Sandy M	ucky Mineral (S1)		Iron-Mangan	ese Ma	sses (F12	2) (LRR I	N,	Other (Ex	plain in Remarl	ks)
Sandy G	leyed Matrix (S4)		MLRA 136)				-		
Sandy R	edox (S5)		Umbric Surfa	ce (F13	3) (MLRA	122, 130	3Ind	licators of l	hydrophytic ve	getation and
Stripped	Matrix (S6)		Piedmont Flo	odplain	n Soils (F	19) (MLR	A 148)	wetland h	ydrology must	be present,
Dark Sur	face (S7)		Red Parent N	/laterial	(F21) (M	LRA 127	, 147, 148)	unless dis	sturbed or probl	lematic.
Restrictive L	ayer (if observed):									
Type:	Rock/g	ravel								
Depth (in	iches):	4					Hydric Soil Pres	ent?	Yes X	No
Remarks:										

Attachment to RFI 1-51, Page 188 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Pro	ject	City/County: Perry Co	ounty	Sampling Date	e: 11/06/2023
Applicant/Owner: STMO bn, LLC			State:	KY Sampling Poir	nt: Upland Z
Investigator(s): L Darnell, B Gibbons		Section, Township, Range			•
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, convex	•	Slope (%	o): 0
Subregion (LRR or MLRA): LRR N, MLRA 1	•	·	-83.1309291	Datum:	-
Soil Map Unit Name: FaB - Fairpoint soils, u		Long.		assification: No	
· · · · · · · · · · · · · · · · · · ·					
Are climatic / hydrologic conditions on the sit	,,		<u> </u>	(If no, explain in Rema	·
Are Vegetation, Soil, or Hydro	ologysignificantly dis	sturbed? Are "Normal	Circumstances" p	present? Yes X	No
Are Vegetation, Soil, or Hydro	logynaturally probl	ematic? (If needed, ex	xplain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach	site map showing s	sampling point locat	ions, transec	ts, important feat	ures, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area			
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No X	
Wetland Hydrology Present?	Yes No X				
Survey conducted during the "Wet Season." assessment.					
HYDROLOGY			0		
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requi	ired: abook all that apply)			<u>licators (minimum of tw</u> oil Cracks (B6)	o required)
Surface Water (A1)	True Aquatic Plants	(R14)		Vegetated Concave Sur	face (B8)
High Water Table (A2)	Hydrogen Sulfide Oc			Patterns (B10)	lace (DO)
Saturation (A3)		res on Living Roots (C3)		n Lines (B16)	
Water Marks (B1)	Presence of Reduce			on Water Table (C2)	
Sediment Deposits (B2)		on in Tilled Soils (C6)		Burrows (C8)	
Drift Deposits (B3)	Thin Muck Surface (C7)	Saturation	n Visible on Aerial Imag	ery (C9)
Algal Mat or Crust (B4)	Other (Explain in Re	marks)	Stunted or	r Stressed Plants (D1)	
Iron Deposits (B5)				nic Position (D2)	
Inundation Visible on Aerial Imagery (B	7)			quitard (D3)	
Water-Stained Leaves (B9)				graphic Relief (D4)	
Aquatic Fauna (B13)		<u> </u>	FAC-Neut	tral Test (D5)	
Field Observations:		,			
Surface Water Present? Yes	No X Depth (inch				
Water Table Present? Yes Saturation Present? Yes	No X Depth (inch		I Hydrology Pres	sent? Yes	No X
(includes capillary fringe)	No X Deptil (illeli	es) Welland	i i iyarology i res		_ 10
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos	s, previous inspections), if a	available:		
(3 3 7		, , ,			
Remarks:					

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC: (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 1 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 0.0% (A/B)
7				Prevalence Index worksheet:
	:	=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size:)				FACW species 0 x 2 = 0
1				FAC species 0 x 3 = 0
2.				FACU species 58 x 4 = 232
3.				UPL species 3 x 5 = 15
4.				Column Totals: 61 (A) 247 (B)
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.				3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20%	of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Schizachyrium scoparium	50	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be
2. Packera sp.	10	No		present, unless disturbed or problematic.
3. Securigera varia	3	No	UPL	Definitions of Four Vegetation Strata:
4. Lespedeza cuneata	5	No	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5. Trifolium hybridum	1	No	FACU	more in diameter at breast height (DBH), regardless of
6. Schedonorus arundinaceus	2	No	FACU	height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than or equal to 3.28 ft
9.				(1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
	71	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 30		of total cover:	15	height.
Woody Vine Stratum (Plot size: 30)				
1.				
2.				
3.				
4.				
5.				
		=Total Cover		Hydrophytic Vegetation
50% of total cover:		of total cover:		Present? Yes No X
Remarks: (Include photo numbers here or on a sepa	rate sneet.)			

Sampling Point: Upland Z

SOIL Sampling Point: Upland Z

Profile Desc	ription: (Describe	to the dep	th needed to docu	ıment t	he indica	ator or co	onfirm the ab	sence of indic	ators.)			
Depth	Matrix			x Featu								
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	<u> </u>	Rem	narks		
0-9	10YR 3/1	100										
			_									
1- 0.0							21					
	ncentration, D=Dep	letion, RM=	Reduced Matrix, N	1S=Mas	ked Sand	Grains.	-[_ocation: PL=P				
Hydric Soil I			Daharaha Da		-f (CO	(MAL DA	4.47 .4.40\			atic Hydric Soils ³ :		
Histosol			Polyvalue Be			-	-		ıck (A10) (M	•		
	ipedon (A2)		Thin Dark Su Loamy Muck				-		rairie Redox A 147, 148)	(A16)		
Black His	n Sulfide (A4)		Loamy Gleye	-		ILKA 130	P)		nt Floodplain	Soils (E10)		
	Layers (A5)		Depleted Ma						A 136, 147)	1 30115 (1-19)		
	ck (A10) (LRR N)		Redox Dark	` '					ent Material	(F21)		
	Below Dark Surface	e (A11)	Depleted Da							27, 147, 148)		
	rk Surface (A12)	. ()	Redox Depre							Surface (F22)		
	ucky Mineral (S1)		Iron-Mangan			2) (LRR N	۸,		xplain in Re			
	leyed Matrix (S4)		MLRA 136		`	, ,	•	`		,		
	edox (S5)		Umbric Surfa		3) (MLRA	122, 136	3)	³ Indicators o	f hydrophytic	c vegetation and		
Stripped	Matrix (S6)		Piedmont Flo	Piedmont Floodplain Soils (F19) (MLR				RA 148) wetland hydrology must be present,				
Dark Sur	face (S7)		Red Parent I	Red Parent Material (F21) (MLRA 127				7, 147, 148) unless disturbed or problematic.				
Restrictive L	.ayer (if observed):											
Type:	Rock/g	ıravel										
Depth (in	iches):	9					Hydric So	il Present?	Yes	No X		
Remarks:												

Attachment to RFI 1-51, Page 191 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Project/Site:	pject	City/County: Knott C	ounty	Sampling Date: 11/06/2023
Applicant/Owner: STMO bn, LLC			State:	KY Sampling Point: Wetland A
Investigator(s): L Darnell, B Gibbons		Section, Township, Rang	e:	<u> </u>
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, conve		Slope (%): 0
Subregion (LRR or MLRA): LRR N, MLRA		•	: -83.1312499	Datum:
Soil Map Unit Name: FaB - Fairpoint soils, u				ssification: No
·				·
Are climatic / hydrologic conditions on the sit	,,			(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydro			Circumstances" pro	
Are Vegetation, Soil, or Hydro	ologynaturally probl	ematic? (If needed, e	explain any answers	s in Remarks.)
SUMMARY OF FINDINGS – Attach	site map showing s	sampling point loca	tions, transect	s, important features, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area		
Hydric Soil Present?	Yes X No	within a Wetland?	Yes	X No
Wetland Hydrology Present?	Yes X No			
Remarks: Survey conducted during the "Wet Season." assessment.	' USACE APT data shows	s "Drier than Normal" cond	itions and "Incipien	t Drought" for the date of
HYDROLOGY				
Wetland Hydrology Indicators:				cators (minimum of two required)
Primary Indicators (minimum of one is requ		(T)		il Cracks (B6)
Surface Water (A1)	True Aquatic Plants			egetated Concave Surface (B8)
High Water Table (A2) Saturation (A3)	Hydrogen Sulfide Oc	res on Living Roots (C3)	Drainage Pa	atterns (B10)
Water Marks (B1)	Presence of Reduce			n Water Table (C2)
Sediment Deposits (B2)		on in Tilled Soils (C6)	Crayfish Bu	
Drift Deposits (B3)	Thin Muck Surface (Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Re	•		Stressed Plants (D1)
Iron Deposits (B5)			Geomorphic	c Position (D2)
Inundation Visible on Aerial Imagery (B	7)		Shallow Aqu	uitard (D3)
Water-Stained Leaves (B9)				raphic Relief (D4)
Aquatic Fauna (B13)			FAC-Neutra	al Test (D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inch			
Water Table Present? Yes	No X Depth (inch	· — —	d Hydrology Prese	omt? Voc V No
Saturation Present? Yes (includes capillary fringe)	No X Depth (inch	es): wetian	a nyarology Prese	ent? Yes X No
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos	s, previous inspections), if	available:	
December (consume gauge, mi	zimening men, dendi prietes	s, p. e . e e e e e e e e e e e e e e e e		
Remarks:				

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:30)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2.				That Are OBL, FACW, or FAC: 2 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 2 (B)
5.				
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
1.		T-1-1-0		
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species70 x 1 =70
Sapling/Shrub Stratum (Plot size: 15	.)			FACW species 0 x 2 = 0
1.				FAC species 0 x 3 = 0
2.				FACU species 0 x 4 = 0
3.				UPL species 0 x 5 = 0
4				Column Totals: 70 (A) 70 (B)
5.				Prevalence Index = B/A = 1.00
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
0				X 2 - Dominance Test is >50%
9				X 3 - Prevalence Index is ≤3.0 ¹
ə		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
500/ -54-4-1				data in Remarks or on a separate sheet)
50% of total cover:	20%	of total cover:		
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
Typha angustifolia	20	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must be
2. Eleocharis obtusa	50	Yes	OBL	present, unless disturbed or problematic.
3.				Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of
6.				height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than or equal to 3.28 ft
9.				(1 m) tall.
10				Harb All borbaccous (non woody) plants, regardless
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in height.
	35 20%	of total cover:	14	neight.
Woody Vine Stratum (Plot size: 30)				
1.				
2.				
3				
4.				
5.				
		=Total Cover		Hydrophytic Vegetation
50% of total cover:		of total cover:		Present? Yes X No
				100 <u>X</u> 100
Remarks: (Include photo numbers here or on a sep	parate sheet.)			

Sampling Point: Wetland AA

SOIL Sampling Point: Wetland AA

Profile Des	cription: (Describe	to the dep	oth needed to docu	ment t	he indica	ator or c	onfirm the abse	nce of indi	cators.)
Depth	Matrix		Redox	Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-5	2.5Y 4/1	94	7.5YR 3/4	5	С	PL/M	Loamy/Claye	y Pro	ominent redox concentrations
			10YR 5/2	1	С	М			Faint redox concentrations
-									
-									
-	<u> </u>								
	Concentration, D=Dep	letion, RM	=Reduced Matrix, M	S=Mas	ked Sand	d Grains.			Pore Lining, M=Matrix.
Hydric Soil									for Problematic Hydric Soils ³ :
Histoso			Polyvalue Be		-		_		uck (A10) (MLRA 147)
	pipedon (A2)		Thin Dark Su	•	, .		· -		Prairie Redox (A16)
	listic (A3)		Loamy Mucky			ILKA 130	ő)	-	A 147, 148)
	en Sulfide (A4)		Loamy Gleye				_		ont Floodplain Soils (F19)
	d Layers (A5) uck (A10) (LRR N)		X Depleted Mat	, ,				-	A 136, 147)
	ed Below Dark Surface	- (Δ11)	Depleted Dark				-		rent Material (F21) ide MLRA 127, 147, 148)
	ark Surface (A12)	<i>(</i> A11)	Redox Depre					-	nallow Dark Surface (F22)
	Mucky Mineral (S1)		Iron-Mangane			2) (LRR I	- N.		Explain in Remarks)
	Gleyed Matrix (S4)		MLRA 136			-/ (-	-		
	Redox (S5)		Umbric Surfa		3) (MLRA	122, 13	5) ³	Indicators	of hydrophytic vegetation and
	d Matrix (S6)		Piedmont Flo		-		-		I hydrology must be present,
·	urface (S7)		Red Parent M		-		-		disturbed or problematic.
Restrictive	Layer (if observed):								
Type:	Rock/g								
Depth (i		5					Hydric Soil P	resent?	Yes X No
Remarks:			<u> </u>				<u>-</u>		

Attachment to RFI 1-51, Page 194 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Pr	oject	City/County: Perry Co	unty	Sampling Date: 11/06/2023			
Applicant/Owner: STMO bn, LLC			State: KY	Sampling Point: Wetland AB			
Investigator(s): L Darnell, B Gibbons		Section, Township, Range					
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, convex,	•	Slope (%): 0			
Subregion (LRR or MLRA): LRR N, MLRA			-83.1340017	Datum:			
Soil Map Unit Name: FaB - Fairpoint soils,		Long.	NWI classific				
·		0					
Are climatic / hydrologic conditions on the s				o, explain in Remarks.)			
Are Vegetation, Soil, or Hydr	ologysignificantly di	sturbed? Are "Normal (Circumstances" preser	nt? Yes X No			
Are Vegetation, Soil, or Hydi	ologynaturally probl	ematic? (If needed, ex	xplain any answers in F	Remarks.)			
SUMMARY OF FINDINGS – Attac	h site map showing s	sampling point locati	ions, transects, i	mportant features, etc.			
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area					
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No			
Wetland Hydrology Present?	Yes X No						
Survey conducted during the "Wet Season assessment.	. USACE APT data snows	S Drief than Normal Condit	ions and incipient Dic	ought for the date of			
HYDROLOGY							
Wetland Hydrology Indicators:				rs (minimum of two required)			
Primary Indicators (minimum of one is requ			X Surface Soil Cra	` '			
Surface Water (A1)	True Aquatic Plants			ated Concave Surface (B8)			
High Water Table (A2)	Hydrogen Sulfide Od		C3) Drainage Patterns (B10) Moss Trim Lines (B16)				
Saturation (A3)		res on Living Roots (C3)					
Water Marks (B1) Sediment Deposits (B2)	Presence of Reduce	on in Tilled Soils (C6)	Dry-Season Wa Crayfish Burrow	· ·			
Drift Deposits (B3)	Thin Muck Surface (ole on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Explain in Re	•		ssed Plants (D1)			
Iron Deposits (B5)		··· ···	Geomorphic Po				
Inundation Visible on Aerial Imagery (E	37)		Shallow Aquitar	, ,			
Water-Stained Leaves (B9)	•		Microtopograph	ic Relief (D4)			
Aquatic Fauna (B13)			FAC-Neutral Te	est (D5)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inch	es):					
Water Table Present? Yes	No X Depth (inch	es):					
Saturation Present? Yes	No X Depth (inch	es): Wetland	Hydrology Present?	Yes X No			
(includes capillary fringe)							
Describe Recorded Data (stream gauge, m	nonitoring well, aerial photos	s, previous inspections), if a	ıvailable:				
Remarks:							
Tellars.							

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species
2				That Are OBL, FACW, or FAC:1 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 1 (B)
5				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC:100.0%(A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species10 x 1 =10
Sapling/Shrub Stratum (Plot size: 15)				FACW species 60 x 2 = 120
1.				FAC species 0 x 3 = 0
2				FACU species15 x 4 =60
3				UPL species0 x 5 =0
4				Column Totals: 85 (A) 190 (B)
5				Prevalence Index = B/A = 2.24
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				X 2 - Dominance Test is >50%
9				X 3 - Prevalence Index is ≤3.0 ¹
	:	=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20%	of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
Echinochloa muricata	50	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must be
2. Bidens trichosperma	10	No	OBL	present, unless disturbed or problematic.
3. Andropogon virginicus	15	No	FACU	Definitions of Four Vegetation Strata:
4. Scirpus cyperinus	10	No	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at breast height (DBH), regardless of
6				height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10 11.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
	85	Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 43	3 20%	of total cover:	17	height.
Woody Vine Stratum (Plot size: 30)				
1.				
2.				
3.				
4.				
4. 5.				Undershide
		=Total Cover		Hydrophytic Vegetation
		=Total Cover		Hydrophytic Vegetation Present? Yes X No
5. 50% of total cover:	20%			Vegetation
5.	20%			Vegetation
5. 50% of total cover:	20%			Vegetation
5. 50% of total cover:	20%			Vegetation
5. 50% of total cover:	20%			Vegetation
5. 50% of total cover:	20%			Vegetation

Sampling Point: Wetland AB1

SOIL Sampling Point: Wetland AB1

Profile Des	cription: (Describe	to the dep	oth needed to docu	ment tl	he indica	ator or co	onfirm the absend	ce of indicators.)
Depth	Matrix		Redox	(Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	2.5Y 4/1	97	7.5YR 4/1	3	С	PL/M	Loamy/Clayey	Faint redox concentrations
6-11	2.5Y 4/2	75	2.5Y 4/3	25	С	М	Loamy/Clayey	Faint redox concentrations
-	· 							
							- 	
-								_
							-	
¹ Type: C=C	oncentration, D=Dep	letion, RM	=Reduced Matrix, M	IS=Mas	ked Sand	Grains.	² Locat	ion: PL=Pore Lining, M=Matrix.
Hydric Soil		i	•					dicators for Problematic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Be	low Sur	face (S8	(MLRA	147, 148)	2 cm Muck (A10) (MLRA 147)
Histic E	pipedon (A2)		Thin Dark Su	rface (S	9) (MLR	A 147, 1	48)	Coast Prairie Redox (A16)
Black H	istic (A3)		Loamy Muck	y Miner	al (F1) (N	ILRA 130	<u> </u>	(MLRA 147, 148)
Hydroge	en Sulfide (A4)		Loamy Gleye	d Matri	x (F2)			Piedmont Floodplain Soils (F19)
Stratifie	d Layers (A5)		X Depleted Ma					(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark S		-			Red Parent Material (F21)
	d Below Dark Surface	e (A11)	Depleted Dar					(outside MLRA 127, 147, 148)
	ark Surface (A12)		Redox Depre		. ,		_	Very Shallow Dark Surface (F22)
	Mucky Mineral (S1)		Iron-Mangan		sses (F12	2) (LRR I	N,	Other (Explain in Remarks)
	Gleyed Matrix (S4)		MLRA 136) /B41 D A	400 404	 3 ₁	- disatana at hudusubutis usanatatism and
	Redox (S5) I Matrix (S6)		Umbric Surfa Piedmont Flo		-		-	ndicators of hydrophytic vegetation and wetland hydrology must be present,
	irface (S7)		Red Parent N		-		-	unless disturbed or problematic.
			Neu Faleili N	nateriai	(1 Z 1) (W	LNA 121	, 147, 140 <i>)</i>	uniess disturbed of problematic.
	Layer (if observed):							
Type: Depth (i	nches).						Hydric Soil Pre	esent? Yes X No
							i ilyano com i il	<u> </u>
Remarks:								

Attachment to RFI 1-51, Page 197 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Pr	oject	City/County: Perry Cou	unty	Sampling Date: 11/06/2023			
Applicant/Owner: STMO bn, LLC			State: KY	Sampling Point: Upland AB1			
Investigator(s): L Darnell, B Gibbons		Section, Township, Range					
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, convex,		Slope (%): 0			
Subregion (LRR or MLRA): LRR N, MLRA		·	83.13610342	Datum:			
Soil Map Unit Name: FaB - Fairpoint soils,	· · · · · · · · · · · · · · · · · · ·	Long.	NWI classific				
· · · · · · · · · · · · · · · · · · ·				1			
Are climatic / hydrologic conditions on the si				, explain in Remarks.)			
Are Vegetation, Soil, or Hydr			Circumstances" presen	nt? Yes X No			
Are Vegetation, Soil, or Hydr	ology naturally probl	ematic? (If needed, ex	plain any answers in F	Remarks.)			
SUMMARY OF FINDINGS – Attac	h site map showing s	sampling point locati	ons, transects, ir	mportant features, etc.			
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area					
Hydric Soil Present?	Yes X No	within a Wetland?	Yes	No X			
Wetland Hydrology Present?	Yes No X						
Survey conducted during the "Wet Season assessment.							
HYDROLOGY							
Wetland Hydrology Indicators:				s (minimum of two required)			
Primary Indicators (minimum of one is requ		(7.4)	Surface Soil Cra	, ,			
Surface Water (A1)	True Aquatic Plants			ated Concave Surface (B8)			
High Water Table (A2)	Hydrogen Sulfide Od		Drainage Patterns (B10) Moss Trim Lines (B16)				
Saturation (A3)		res on Living Roots (C3)					
Water Marks (B1) Sediment Deposits (B2)	Presence of Reduce	on in Tilled Soils (C6)	Dry-Season Water Table (C2) oils (C6) Crayfish Burrows (C8)				
Drift Deposits (B3)	Thin Muck Surface (le on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Explain in Re	,		=			
Iron Deposits (B5)		··· ··· /	Stunted or Stressed Plants (D1) Geomorphic Position (D2)				
Inundation Visible on Aerial Imagery (E	37)		Shallow Aquitare	` ,			
Water-Stained Leaves (B9)	,		Microtopographi				
Aquatic Fauna (B13)			FAC-Neutral Tes	st (D5)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inch	es):					
Water Table Present? Yes	No X Depth (inch	es):					
Saturation Present? Yes	No X Depth (inch	es): Wetland	Hydrology Present?	Yes No _X_			
(includes capillary fringe)							
Describe Recorded Data (stream gauge, m	onitoring well, aerial photos	s, previous inspections), if a	vailable:				
Domorko							
Remarks:							

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2.				That Are OBL, FACW, or FAC: 1 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 3 (B)
5.				
· · · · · · · · · · · · · · · · · · ·				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 33.3% (A/B)
1.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species15 x 1 =15
Sapling/Shrub Stratum (Plot size: 15)			FACW species 0 x 2 = 0
1				FAC species 0 x 3 = 0
2.				FACU species 40 x 4 = 160
3.				UPL species 0 x 5 = 0
4.				Column Totals: 55 (A) 175 (B)
5.				Prevalence Index = B/A = 3.18
6				Hydrophytic Vegetation Indicators:
<u> </u>				
7.				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9.				3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20%	of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Andropogon virginicus	15	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be
Solidago canadensis	5	No	FACU	present, unless disturbed or problematic.
3. Symphyotrichum sp.	10	No		Definitions of Four Vegetation Strata:
	20	Yes	FACU	
4. Lespedeza cuneata				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
5. Bidens coronata	15	Yes	OBL	height.
6				1.5.g. ti.
7				Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than or equal to 3.28 ft
9.				(1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
	65	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:		of total cover:	13	height.
	2070	or total cover.		
· · · · · · · · · · · · · · · · · · ·				
1				
2				
3.				
4.				
5.				Undershide
		=Total Cover		Hydrophytic Vegetation
50% of total cover:	20%	of total cover:		Present? Yes No X
Remarks: (Include photo numbers here or on a sepa	arate sheet.)			

Sampling Point: Upland AB1

SOIL Sampling Point: Upland AB1

Profile Des	cription: (Describe	to the dep	th needed to docu	ıment t	he indica	ator or c	onfirm the abse	nce of indica	ators.)
Depth	Matrix		Redox	(Featu	res				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-3	2.5Y 4/2	95	10YR 4/4	5	С	М	Loamy/Claye	v Dis	stinct redox concentrations
	2.01 4/2		1011(4/4				Loamyrolaye	<u> </u>	Stiriot redex deridenti atteno
3-12	10YR 4/2	100							
	· 								
¹ Type: C=C	oncentration, D=Depl	letion, RM	=Reduced Matrix, M	IS=Mas	ked Sand	Grains.	² Loc	ation: PL=Po	ore Lining, M=Matrix.
Hydric Soil	•	•	,						or Problematic Hydric Soils ³ :
Histosol			Polyvalue Be	low Su	rface (S8	(MLRA			ck (A10) (MLRA 147)
	pipedon (A2)		Thin Dark Su			-	-		rairie Redox (A16)
	istic (A3)		Loamy Muck				-		\ 147, 148)
	en Sulfide (A4)		Loamy Gleye				,	•	t Floodplain Soils (F19)
	d Layers (A5)		X Depleted Ma				-		\ 136, 147)
	uck (A10) (LRR N)		Redox Dark	` '				•	ent Material (F21)
	d Below Dark Surface	e (A11)	Depleted Da				-		de MLRA 127, 147, 148)
	ark Surface (A12)	` ,	Redox Depre					-	allow Dark Surface (F22)
	Mucky Mineral (S1)		Iron-Mangan			2) (LRR I	- ۷,		xplain in Remarks)
	Gleyed Matrix (S4)		MLRA 136		,	, ,	-		,
	Redox (S5)		Umbric Surfa		3) (MLRA	122, 13	6)	³ Indicators of	hydrophytic vegetation and
	d Matrix (S6)		Piedmont Flo				-		hydrology must be present,
	ırface (S7)		Red Parent N		-		-		sturbed or problematic.
Restrictive	Layer (if observed):								
Type:	, ,								
Depth (i	nches):						Hydric Soil F	Present?	Yes X No
Remarks:									
rtorriamo.									

Attachment to RFI 1-51, Page 200 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Pro	ject	City/County: Knott Cou	ınty	Sampling Date: 11/06/2023				
Applicant/Owner: STMO bn, LLC		<u> </u>	State: KY	Sampling Point: Wetland AB2				
Investigator(s): L Darnell, B Gibbons		Section, Township, Range:	:					
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, convex,	•	Slope (%): 0				
Subregion (LRR or MLRA): LRR N, MLRA 1			83.13599494	Datum:				
Soil Map Unit Name: FaB - Fairpoint soils, u		bong	NWI classific					
·		or? Voo		·				
Are climatic / hydrologic conditions on the sit				explain in Remarks.)				
Are Vegetation, Soil, or Hydro			Circumstances" presen					
Are Vegetation, Soil, or Hydro	logynaturally probl	ematic? (If needed, ex	plain any answers in F	Remarks.)				
SUMMARY OF FINDINGS – Attach	site map showing s	sampling point locati	ons, transects, ir	mportant features, etc.				
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area						
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No				
Wetland Hydrology Present?	Yes X No			·				
Survey conducted during the "Wet Season." assessment.			·					
HYDROLOGY								
Wetland Hydrology Indicators:			•	s (minimum of two required)				
Primary Indicators (minimum of one is requi		(D.4.4)	X Surface Soil Cra	` ,				
Surface Water (A1)	True Aquatic Plants			ated Concave Surface (B8)				
High Water Table (A2)	Hydrogen Sulfide Oc		C3) Drainage Patterns (B10) Moss Trim Lines (B16)					
Saturation (A3) Water Marks (B1)	Presence of Reduce	res on Living Roots (C3)						
Sediment Deposits (B2)		on in Tilled Soils (C6)	Crayfish Burrow					
Drift Deposits (B3)	Thin Muck Surface (
Algal Mat or Crust (B4)	Other (Explain in Re	•	Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)					
Iron Deposits (B5)		,	Geomorphic Pos	i i				
Inundation Visible on Aerial Imagery (B	7)		Shallow Aquitare	, ,				
Water-Stained Leaves (B9)	,		Microtopographi					
Aquatic Fauna (B13)			FAC-Neutral Tes	st (D5)				
Field Observations:								
Surface Water Present? Yes	No X Depth (inch	es):						
Water Table Present? Yes	No X Depth (inch							
Saturation Present? Yes	No X Depth (inch	es): Wetland	Hydrology Present?	Yes <u>X</u> No				
(includes capillary fringe)								
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos	s, previous inspections), if a	vailable:					
Remarks:								

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species
2.				That Are OBL, FACW, or FAC:(A)
3.				Total Number of Dominant
4.				Species Across All Strata: 2 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
		Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 13 x 1 = 13
Sapling/Shrub Stratum (Plot size: 15)				FACW species 28 x 2 = 56
1.				FAC species 2 x 3 = 6
2.				FACU species 4 x 4 = 16
3.				UPL species 0 x 5 = 0
4.				Column Totals: 47 (A) 91 (B)
5.				Prevalence Index = B/A = 1.94
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
8.				X 2 - Dominance Test is >50%
9.				X 3 - Prevalence Index is ≤3.0 ¹
		Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:		of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)		or total cover.		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Typha angustifolia	10	Yes	OBL	Indicators of hydric soil and wetland hydrology must be
Echinochloa muricata	5	No	FACW	present, unless disturbed or problematic.
Persicaria lapathifolia	3	No	FACW	Definitions of Four Vegetation Strata:
4. Coleataenia rigidula	15	Yes	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5. Scirpus cyperinus	5	No	FACW	more in diameter at breast height (DBH), regardless of
6. Ammannia coccinea	3	No	OBL	height.
7. Setaria pumila	2	No	FAC	Sapling/Shrub – Woody plants, excluding vines, less
8. Trifolium hybridum	3	No	FACU	than 3 in. DBH and greater than or equal to 3.28 ft
9. Andropogon virginicus	1	No	FACU	(1 m) tall.
10.	<u> </u>			Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
···	47	Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 24		of total cover:	10	height.
Woody Vine Stratum (Plot size: 30)		or total cover.		
1.				
2.				
3.				
4.				
5.		-		
		Total Cover		Hydrophytic
50% of total cover:		of total cover:		Vegetation Present? Yes X No
-		or total cover.		Tresent: Tes_XNo
Remarks: (Include photo numbers here or on a sepa	ale sneet.)			
				!

Sampling Point: Wetland AB2

SOIL Sampling Point: Wetland AB2

	cription: (Describe	to the de				ator or co	onfirm the absen	ce of indicators.)
Depth (inches)	Matrix Color (moist)	%		x Featur %		Loc ²	Toyturo	Domarka
(inches)	,		Color (moist)		Type ¹		Texture	Remarks
0-4	10YR 3/2	92	10YR 3/6	8	<u>C</u>	PL/M	Sandy	Prominent redox concentrations
4-11	2.5Y 4/1	100					Sandy	
								<u> </u>
		· ——						
¹Type: C=Co	oncentration, D=Dep	letion, RM	======================================	/IS=Mas	ked San	d Grains.	² Locat	tion: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						In	dicators for Problematic Hydric Soils ³ :
Histosol			Polyvalue Be		-			2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Thin Dark Su					Coast Prairie Redox (A16)
Black Hi			Loamy Muck			/ILRA 130	6)	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye					Piedmont Floodplain Soils (F19)
	d Layers (A5) ick (A10) (LRR N)		Depleted Ma Redox Dark					(MLRA 136, 147) Red Parent Material (F21)
	d Below Dark Surface	a (Δ11)	Depleted Da		` '			(outside MLRA 127, 147, 148)
	ark Surface (A12)	S (A11)	Redox Depre					Very Shallow Dark Surface (F22)
	lucky Mineral (S1)		Iron-Mangan			2) (LRR I		Other (Explain in Remarks)
	Gleyed Matrix (S4)		MLRA 136		`	, ,	<u> </u>	
X Sandy R	tedox (S5)		Umbric Surfa	ace (F13	3) (MLRA	122, 136	3) 3	ndicators of hydrophytic vegetation and
	Matrix (S6)		Piedmont Flo					wetland hydrology must be present,
Dark Su	rface (S7)		Red Parent I	Material	(F21) (M	ILRA 127	, 147, 148)	unless disturbed or problematic.
Restrictive I	Layer (if observed):							
Type:								
Depth (ir	nches):						Hydric Soil Pro	esent? Yes <u>X</u> No
Remarks:								

Attachment to RFI 1-51, Page 203 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Pro	oject	City/County: Perry Cou	unty	Sampling Date:	11/06/2023		
Applicant/Owner: STMO bn, LLC			State:	KY Sampling Point	: Upland AB2		
Investigator(s): L Darnell, B Gibbons		Section, Township, Range:					
Landform (hillside, terrace, etc.): Terrace	Lo	ocal relief (concave, convex,		Slope (%):	. 0		
Subregion (LRR or MLRA): LRR N, MLRA	•	,	83.13610342	Datum:			
Soil Map Unit Name: FaB - Fairpoint soils,		Long		assification: No			
· ·	<u>-</u>	•		-			
Are climatic / hydrologic conditions on the si	,,			(If no, explain in Remark	·		
Are Vegetation, Soil, or Hydro	ologysignificantly di	sturbed? Are "Normal C	Circumstances" p	resent? Yes X	_ No		
Are Vegetation, Soil, or Hydro	ologynaturally probl	lematic? (If needed, ex	plain any answer	s in Remarks.)			
SUMMARY OF FINDINGS – Attacl	າ site map showing ເ	sampling point locati	ons, transect	ts, important featu	res, etc.		
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area					
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No X			
Wetland Hydrology Present?	Yes No X		-				
Survey conducted during the "Wet Season. assessment.	" USACE APT data shows	s "Drier than Normal" conditi	ons and "Incipier	nt Drought" for the date	of		
HYDROLOGY							
Wetland Hydrology Indicators:	South the standard and A			cators (minimum of two	required)		
Primary Indicators (minimum of one is requ		(D14)		oil Cracks (B6)	200 (PQ)		
Surface Water (A1) High Water Table (A2)	True Aquatic Plants Hydrogen Sulfide Od			egetated Concave Surfa Patterns (B10)	ice (DO)		
Saturation (A3)		res on Living Roots (C3)	Drainage Patterns (B10) Moss Trim Lines (B16)				
Water Marks (B1)	Presence of Reduce	=	Dry-Season Water Table (C2)				
Sediment Deposits (B2)		on in Tilled Soils (C6)		urrows (C8)			
Drift Deposits (B3)	Thin Muck Surface (Visible on Aerial Imager	y (C9)		
Algal Mat or Crust (B4)	Other (Explain in Re	marks)	Stunted or	Stressed Plants (D1)			
Iron Deposits (B5)			Geomorphi	ic Position (D2)			
Inundation Visible on Aerial Imagery (B	.7)		Shallow Aq	quitard (D3)			
Water-Stained Leaves (B9)				graphic Relief (D4)			
Aquatic Fauna (B13)			FAC-Neutra	al Test (D5)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inch						
Water Table Present? Yes Saturation Present? Yes	No X Depth (inch		Hydrology Pres	ont? Voc	No. V		
(includes capillary fringe)	No X Deptil (ilicii	vetiand	nyurology Fresi	ent? Yes	_ No _ X		
Describe Recorded Data (stream gauge, m	onitoring well, aerial photos	s, previous inspections), if a	vailable:				
		-, _F					
Remarks:							

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC: (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 1 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 0.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:		of total cover:		OBL species 0 x 1 = 0
		or total cover.		
Sapling/Shrub Stratum (Plot size: 15)				FACW species 0 x 2 = 0
1.		-		FAC species 0 x 3 = 0
2				FACU species 50 x 4 = 200
3				UPL species 5 x 5 = 25
4.				Column Totals: 55 (A) 225 (B)
5.				Prevalence Index = B/A = 4.09
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 Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:		of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)		or total cover.		Problematic Hydrophytic Vegetation ¹ (Explain)
	40	V	FACIL	
1. Lespedeza cuneata	40	Yes	FACU	¹Indicators of hydric soil and wetland hydrology must be
2. Erigeron sp.	10	No		present, unless disturbed or problematic.
3. Andropogon virginicus	8	No	FACU	Definitions of Four Vegetation Strata:
4. Plantago virginica	5	No	UPL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5. Solidago sp.	5	No		more in diameter at breast height (DBH), regardless of
6. Symphyotrichum	3	No		height.
7. Schedonorus arundinaceus	2	No	FACU	Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than or equal to 3.28 ft
9.				(1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
···	73	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
EOO/ of total powers 2		of total cover:	15	height.
	<u>7</u> 20%	or total cover.	15	
Woody Vine Stratum (Plot size: 30)				
1				
2				
3.				
4				
5				Hydrophytic
	:	=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present? Yes No X
Remarks: (Include photo numbers here or on a sepa	rata chaot)			
Remarks. (include prioto numbers here of our a sepa	irate sneet.)			

Sampling Point: Upland AB2

SOIL Sampling Point: Upland AB2

Profile Des	cription: (Describe	to the dep	oth needed to docu	ment t	he indica	ator or co	onfirm the absen	ce of indic	cators.)	
Depth	Matrix		Redox	Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Rema	arks
0-4	10YR 4/3	70	10YR 4/6	30	<u>C</u>	M	Sandy	D	istinct redox o	concentrations
4-7	10YR 5/6	60	10YR 5/4	40	D	М	Sandy			
										-
-										
										-
-										
1- 0.0							2,			
	oncentration, D=Dep	letion, RM	=Reduced Matrix, M	S=Mas	ked Sand	Grains.			Pore Lining, M	
Hydric Soil			Dobavoluo Po	low Sur	face (50	/MI DA				tic Hydric Soils ³ :
Histosol	pipedon (A2)		Polyvalue Be Thin Dark Su				_		uck (A10) (ML rairie Redox (-
	istic (A3)		Loamy Muck	•	, .				A 147, 148)	(10)
	en Sulfide (A4)		Loamy Gleye				-,	-	nt Floodplain	Soils (F19)
	d Layers (A5)		Depleted Mat				_		A 136, 147)	(- ',
	uck (A10) (LRR N)		Redox Dark S					-	rent Material (F21)
Deplete	d Below Dark Surface	e (A11)	Depleted Dar	k Surfa	ce (F7)		_	(outs	ide MLRA 12	7, 147, 148)
Thick D	ark Surface (A12)		Redox Depre	ssions	(F8)		_	Very Sh	allow Dark Su	ırface (F22)
	Mucky Mineral (S1)		Iron-Mangane		sses (F12	2) (LRR N	N,	Other (E	Explain in Ren	narks)
	Gleyed Matrix (S4)		MLRA 136				2			
	Redox (S5)		Umbric Surfa				-			vegetation and
	d Matrix (S6)		Piedmont Flo		-		-			ist be present,
	ırface (S7)		Red Parent N	nateriai	(F21) (M	LRA 127	, 147, 148) I	uniess	disturbed or pr	roblematic.
	Layer (if observed):									
Type: Depth (i	Rock/g	7					Hydric Soil Pr	esont?	Yes	No X
	<u> </u>	<i>I</i>					Tiyunc 30ii i i	esent:	165	
Remarks:										

Attachment to RFI 1-51, Page 206 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Project	ct City/C	county: Perry County	Sampling Date: 11/06/2023			
Applicant/Owner: STMO bn, LLC		State: K	Y Sampling Point: Wetland AD			
Investigator(s): L Darnell, B Gibbons	Section, T	ownship, Range:				
Landform (hillside, terrace, etc.): Terrace		concave, convex, none): Concave	Slope (%): 0			
Subregion (LRR or MLRA): LRR N, MLRA 125		Long: -83.1336466	Datum:			
Soil Map Unit Name: FaB - Fairpoint soils, und			sification: No			
Are climatic / hydrologic conditions on the site t	•	 `	no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrolo	gysignificantly disturbed?	Are "Normal Circumstances" pres	sent? Yes X No			
Are Vegetation, Soil, or Hydrolo	gynaturally problematic?	(If needed, explain any answers i	n Remarks.)			
SUMMARY OF FINDINGS – Attach s	site map showing sampling	point locations, transects	, important features, etc.			
Hydric Soil Present?		ampled Area Wetland? Yes	< No			
Remarks: Survey conducted during the "Wet Season." I assessment.	JSACE APT data shows "Drier tha	n Normal" conditions and "Incipient l	Orought" for the date of			
HYDROLOGY						
Wetland Hydrology Indicators: Primary Indicators (minimum of one is require	d; check all that apply)	Secondary Indica X Surface Soil (tors (minimum of two required) Cracks (B6)			
Surface Water (A1)	True Aquatic Plants (B14)	X Sparsely Veg	etated Concave Surface (B8)			
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	X Drainage Pat	X Drainage Patterns (B10)			
l 	X Oxidized Rhizospheres on Livir					
Water Marks (B1)	Presence of Reduced Iron (C4)		Vater Table (C2)			
X Sediment Deposits (B2)	Recent Iron Reduction in Tilled					
Drift Deposits (B3)	Thin Muck Surface (C7)		sible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Explain in Remarks)		ressed Plants (D1)			
Iron Deposits (B5)		Geomorphic C				
Inundation Visible on Aerial Imagery (B7)		Shallow Aqui				
——Water-Stained Leaves (B9) Aquatic Fauna (B13)		FAC-Neutral	phic Relief (D4)			
		I AC-Neutral	Test (D3)			
Field Observations:	No. V. Donath (in choo)					
	No X Depth (inches): No X Depth (inches):	-				
	No X Depth (inches): No X Depth (inches):	Wetland Hydrology Presen	t2 Vac V Na			
Saturation Present? Yes (includes capillary fringe)	No A Depth (inches).	Wetland Hydrology Presen	t? Yes X No			
Describe Recorded Data (stream gauge, moni	itoring well aerial photos previous	inspections) if available:				
	g, a p, p					
Domarka						
Remarks:						
1						

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species
2				That Are OBL, FACW, or FAC:(A)
3.				Total Number of Dominant
4				Species Across All Strata: 2 (B)
5.				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 38 x 1 = 38
Sapling/Shrub Stratum (Plot size: 15)				FACW species 10 x 2 = 20
1.				FAC species 0 x 3 = 0
2.				FACU species 0 x 4 = 0
3.				UPL species $0 \times 5 = 0$
4				Column Totals: 48 (A) 58 (B)
5.				Prevalence Index = B/A = 1.21
6.				Hydrophytic Vegetation Indicators:
7. 8.				1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50%
0.				X 3 - Prevalence Index is ≤3.0 ¹
9.		Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:		of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)	2070	oi total cover.		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Typha angustifolia	30	Yes	OBL	I
Scirpus cyperinus	10	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. Eleocharis obtusa	8	No	OBL	Definitions of Four Vegetation Strata:
4		INO	OBL	
5.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
6				height.
7.		-		Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than or equal to 3.28 ft
9				(1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
···	48	Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 24		of total cover:	10	height.
Woody Vine Stratum (Plot size: 30)				
1.				
2.				
3.				
4.				
4 5.				
·		=Total Cover		Hydrophytic Vegetation
5.				Hydrophytic Vegetation Present? Yes X No
5. 50% of total cover:	20%	=Total Cover of total cover:		Vegetation
5.	20%			Vegetation
5. 50% of total cover:	20%			Vegetation
5. 50% of total cover:	20%			Vegetation
5. 50% of total cover:	20%			Vegetation
5. 50% of total cover:	20%			Vegetation

Sampling Point: Wetland AD

SOIL Sampling Point: Wetland AD

Profile Desc	cription: (Describe	to the dep	th needed to docu	ıment t	he indica	ator or co	onfirm the abse	nce of indic	cators.)
Depth	Matrix		Redox	κ Featu	res				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-8	2.5Y 4/1	90	7.5YR 4/4	10	С	PL/M	Sandy	Pro	ominent redox concentrations
0-0	2.51 4/1		7.511(4/4	10		T L/IVI	Carray		William Tedax Concentrations
•									
			_						
									
¹ Type: C=C	oncentration, D=Depl	letion, RM=	Reduced Matrix, M	IS=Mas	ked Sand	Grains.	² Loc	ation: PL=P	Pore Lining, M=Matrix.
Hydric Soil		,	,						or Problematic Hydric Soils ³ :
Histosol			Polyvalue Be	low Su	rface (S8	(MLRA			uck (A10) (MLRA 147)
	oipedon (A2)		Thin Dark Su			-			rairie Redox (A16)
	istic (A3)		Loamy Muck	,	, .				A 147, 148)
	en Sulfide (A4)		Loamy Gleye	•	. , .		-	-	nt Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma		. ,		•		A 136, 147)
	uck (A10) (LRR N)		Redox Dark					-	ent Material (F21)
Deplete	d Below Dark Surface	e (A11)	Depleted Da	rk Surfa	ice (F7)		•	(outsi	de MLRA 127, 147, 148)
Thick Da	ark Surface (A12)		Redox Depre	ssions	(F8)			Very Sh	allow Dark Surface (F22)
Sandy N	Mucky Mineral (S1)		Iron-Mangan	ese Ma	sses (F12	2) (LRR N	l ,	Other (E	Explain in Remarks)
Sandy G	Gleyed Matrix (S4)		MLRA 136	i)					
X Sandy F	Redox (S5)		Umbric Surfa	ice (F13	3) (MLRA	122, 136	5)	³ Indicators o	f hydrophytic vegetation and
Stripped	l Matrix (S6)		Piedmont Flo	odplair	Soils (F	19) (MLR	A 148)	wetland	hydrology must be present,
Dark Su	rface (S7)		Red Parent N	<i>N</i> aterial	(F21) (M	LRA 127	, 147, 148)	unless d	listurbed or problematic.
Restrictive	Layer (if observed):								
Type:	Rock/g	ravel							
Depth (i	nches):	8					Hydric Soil F	Present?	Yes _ X _ No
Remarks:			<u> </u>						

Attachment to RFI 1-51, Page 209 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Project/Site:	pject	City/County: Perry Co	ounty	Sampling Date: 11/06/2023
Applicant/Owner: STMO bn, LLC			State: K\	Y Sampling Point: Wetland AE
Investigator(s): L Darnell, B Gibbons		Section, Township, Rang		
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, conve	k, none): Concave	Slope (%): 0
Subregion (LRR or MLRA): LRR N, MLRA		•	: -83.1341982	Datum:
Soil Map Unit Name: FaB - Fairpoint soils, u				ification: No
·				
Are climatic / hydrologic conditions on the sit	,,			no, explain in Remarks.)
Are Vegetation, Soil, or Hydro	·		Circumstances" prese	
Are Vegetation, Soil, or Hydro	ologynaturally probl	ematic? (If needed, e	explain any answers in	ı Remarks.)
SUMMARY OF FINDINGS – Attach	site map showing s	sampling point locat	tions, transects,	important features, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area		
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	(No
Wetland Hydrology Present?	Yes X No			_
Survey conducted during the "Wet Season." assessment.	' USACE APT data shows	"Drier than Normal" cond	itions and "Incipient D	rought" for the date of
HYDROLOGY				
Wetland Hydrology Indicators:				ors (minimum of two required)
Primary Indicators (minimum of one is requ		(D.4.4)	Surface Soil C	
Surface Water (A1)	True Aquatic Plants			etated Concave Surface (B8)
High Water Table (A2) Saturation (A3)	Hydrogen Sulfide Oc	res on Living Roots (C3)	Drainage Patte Moss Trim Lin	
Water Marks (B1)	Presence of Reduce	-		Vater Table (C2)
Sediment Deposits (B2)		on in Tilled Soils (C6)	Crayfish Burro	
Drift Deposits (B3)	Thin Muck Surface (sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Re	·		ressed Plants (D1)
Iron Deposits (B5)			Geomorphic P	Position (D2)
Inundation Visible on Aerial Imagery (B	7)		Shallow Aquita	ard (D3)
Water-Stained Leaves (B9)				phic Relief (D4)
Aquatic Fauna (B13)			FAC-Neutral T	rest (D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inch			
Water Table Present? Yes	No X Depth (inch	· -	d Hydrology Present	Yes V No
Saturation Present? Yes (includes capillary fringe)	No X Depth (inch	es): wetiand	i Hydrology Present	? Yes X No
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos	s, previous inspections), if	available:	
		-, _F <i>,</i> ,		
Remarks:				

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2.				That Are OBL, FACW, or FAC:(A)
3.				Total Number of Dominant
4				Species Across All Strata: 2 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC:50.0% (A/B)
7.				Prevalence Index worksheet:
	:	=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 17 x 1 = 17
Sapling/Shrub Stratum (Plot size: 15)				FACW species 33 x 2 = 66
1.				FAC species 5 x 3 = 15
2.				FACU species 22 x 4 = 88
3.				UPL species 0 x 5 = 0
4.				Column Totals: 77 (A) 186 (B)
5.				Prevalence Index = B/A = 2.42
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
8.				2 - Dominance Test is >50%
9.				X 3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	$\overline{}$	of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)		or total cover.		Problematic Hydrophytic Vegetation ¹ (Explain)
Scirpus cyperinus	30	Yes	FACW	
Setaria pumila	5	No	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Coleataenia longifolia	20	Yes	FACU	Definitions of Four Vegetation Strata:
	5	No	OBL	
4. Eleocharis obtusa5. Echinochloa muricata	3		FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
	2	No No	FACVV	height.
6. Persicaria sp.	$\overline{}$	No No		
7. Ludwigia palustris	2	No No	OBL	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft
8. Typha angustifolia	10	No	OBL	(1 m) tall.
9. Schizachyrium scoparium	2	No	FACU	
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	-	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 4	0 20%	of total cover:	16	height.
Woody Vine Stratum (Plot size:)				
1.				
2.				
3.				
4.				
5				Hydrophytic
		=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present? Yes X No No
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			•
	,			

Sampling Point: Wetland AE

SOIL Sampling Point: Wetland AE

Profile Des	cription: (Describe	to the dep				ator or co	onfirm the absenc	e of indicators.)
Depth	Matrix			(Featur				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	2.5Y 4/1	87	7.5YR 5/8	10	С	PL/M	Loamy/Clayey	Prominent redox concentrations
			5YR 5/8	3	С	PL/M		Prominent redox concentrations
-								-
-								
1Typo: C=C	oncentration, D=Dep	lotion PM			kod San		² l ocati	on: PL=Pore Lining, M=Matrix.
Hydric Soil	•	ietion, Kivi	-Reduced Matrix, iv	IS-IVIAS	keu San	d Grains.		dicators for Problematic Hydric Soils ³ :
Histosol			Polyvalue Be	low Sur	face (S8) (MLRA		2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Thin Dark Su		-			Coast Prairie Redox (A16)
	istic (A3)		Loamy Muck	•	, ,		· —	(MLRA 147, 148)
Hydroge	en Sulfide (A4)		Loamy Gleye	ed Matri	x (F2)			Piedmont Floodplain Soils (F19)
Stratifie	d Layers (A5)		X Depleted Ma	trix (F3)				(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark					_Red Parent Material (F21)
	d Below Dark Surface	e (A11)	Depleted Dai					(outside MLRA 127, 147, 148)
	ark Surface (A12)		Redox Depre		` '	o) // DD /		_ Very Shallow Dark Surface (F22)
	Mucky Mineral (S1) Gleyed Matrix (S4)		Iron-Mangan MLRA 136		sses (F12	2) (LKK I		Other (Explain in Remarks)
	Redox (S5)		Umbric Surfa		R) (MI RA	122, 136	3) 3In	dicators of hydrophytic vegetation and
	Matrix (S6)		Piedmont Flo		-		-	wetland hydrology must be present,
	ırface (S7)		Red Parent N					unless disturbed or problematic.
Restrictive	Layer (if observed):							·
Type:	Rock/g							
Depth (i	nches):	4					Hydric Soil Pre	sent? Yes X No No
Remarks:								

Attachment to RFI 1-51, Page 212 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Pro	oject	City/County: Perry Cou	unty	Sampling Date: 11/06/2023
Applicant/Owner: STMO bn, LLC			State: K`	Y Sampling Point: Upland AE
Investigator(s): L Darnell, B Gibbons		Section, Township, Range		
Landform (hillside, terrace, etc.): Terrace	Lc	ocal relief (concave, convex,	none): Concave	Slope (%): 0
Subregion (LRR or MLRA): LRR N, MLRA	•	•	83.1342562	Datum:
Soil Map Unit Name: FaB - Fairpoint soils,				ification: No
·				
Are climatic / hydrologic conditions on the si				no, explain in Remarks.)
Are Vegetation, Soil, or Hydr			Circumstances" pres	ent? Yes X No
Are Vegetation, Soil, or Hydr	ologynaturally probl	lematic? (If needed, ex	plain any answers ir	າ Remarks.)
SUMMARY OF FINDINGS – Attacl	n site map showing s	sampling point locati	ons, transects,	important features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area		
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No X
Wetland Hydrology Present?	Yes No X			
Survey conducted during the "Wet Season assessment.	" USACE APT data shows	s "Drier than Normal" condit	ons and "Incipient C	rought" for the date of
HYDROLOGY				
Wetland Hydrology Indicators:	لا با سمع فعطف العرباء عام باسمين			tors (minimum of two required)
Primary Indicators (minimum of one is requ		(D14)	Surface Soil C	
Surface Water (A1) High Water Table (A2)	True Aquatic Plants Hydrogen Sulfide Od		Drainage Patt	etated Concave Surface (B8)
Saturation (A3)		res on Living Roots (C3)	Moss Trim Lin	
Water Marks (B1)	Presence of Reduce	= : :		Vater Table (C2)
Sediment Deposits (B2)		on in Tilled Soils (C6)	Crayfish Burro	
Drift Deposits (B3)	Thin Muck Surface (sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Re	marks)	Stunted or Str	ressed Plants (D1)
Iron Deposits (B5)			Geomorphic F	Position (D2)
Inundation Visible on Aerial Imagery (E	57)		Shallow Aquita	ard (D3)
Water-Stained Leaves (B9)				phic Relief (D4)
Aquatic Fauna (B13)			FAC-Neutral 1	ſest (D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inch			
Water Table Present? Yes	No X Depth (inch		Hydrology Present	42 Van Na V
Saturation Present? Yes (includes capillary fringe)	No X Depth (inch	es) wetiand	nyarology Present	t? Yes No _X_
Describe Recorded Data (stream gauge, m	onitoring well aerial photog	s previous inspections) if a	vailable [.]	
	onnormig from, domar priotos	o, p. o o a o o p o o a o o , a		
Remarks:				

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2.				That Are OBL, FACW, or FAC: 0 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 1 (B)
5.				
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
7				Prevalence Index worksheet:
1.		Tatal Cavan		
500/ 51.1		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species
Sapling/Shrub Stratum (Plot size: 15)				FACW species 0 x 2 = 0
1				FAC species 0 x 3 = 0
2				FACU species 70 x 4 = 280
3.				UPL species 3 x 5 = 15
4.				Column Totals: 73 (A) 295 (B)
5.				Prevalence Index = B/A = 4.04
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
0				2 - Dominance Test is >50%
9.				3 - Prevalence Index is ≤3.0 ¹
<u> </u>		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:		of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)		or total cover.		Problematic Hydrophytic Vegetation ¹ (Explain)
Schizachyrium scoparium	50	Yes	FACU	
2. Packera sp.	15	No	17100	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. Lespedeza cuneata	10	No	FACU	Definitions of Four Vegetation Strata:
Schedonorus arundinaceus	10	No	FACU	
5. Solidago nemoralis	3	No	UPL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
6.		140		height.
·				
1.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft
8.				(1 m) tall.
9				
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in height.
	<u>4</u> 20%	of total cover:	18	Tolgin.
Woody Vine Stratum (Plot size: 30)				
1.				
2.				
3				
4.				
5				Hydrophytic
		=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present? Yes No X
Remarks: (Include photo numbers here or on a sepa	arate sheet)			
Tremarks. (Include prioto numbers here or on a sepa	ilate Sileet.)			

Sampling Point: Upland AE

SOIL Sampling Point: Upland AE

	ription: (Describe	to the dep				tor or co	onfirm the al	sence of ind	licators.)	
Depth	Matrix			k Featur		. 2	- .			
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Textur	<u> </u>	Ren	narks
0-8	10YR 4/1	100					Loamy/Cla	ayey		
			_							
			_							
¹Type: C=Co	ncentration, D=Depl	etion. RM	=Reduced Matrix. N	 IS=Mas	ked Sand	Grains.	2	Location: PL=	Pore Lining, N	M=Matrix.
Hydric Soil I										atic Hydric Soils ³ :
Histosol			Polyvalue Be	low Su	rface (S8)	(MLRA	147, 148)		Muck (A10) (M	-
	pedon (A2)		Thin Dark Su			-	-		Prairie Redox	
Black His			Loamy Muck	-			-		RA 147, 148)	,
	Sulfide (A4)		Loamy Gleye	•	. , .			-	ont Floodplair	n Soils (F19)
	Layers (A5)		Depleted Ma						RA 136, 147)	· · · · · ·
2 cm Mu	ck (A10) (LRR N)		Redox Dark	Surface	(F6)			Red P	arent Material	(F21)
Depleted	Below Dark Surface	e (A11)	Depleted Da	rk Surfa	ice (F7)			(out	side MLRA 12	27, 147, 148)
Thick Da	rk Surface (A12)		Redox Depre	essions	(F8)			Very S	Shallow Dark S	Surface (F22)
Sandy M	ucky Mineral (S1)		Iron-Mangan	ese Ma	sses (F12	2) (LRR N	١,	Other	(Explain in Re	emarks)
Sandy G	eyed Matrix (S4)		MLRA 136	•						
	edox (S5)		Umbric Surfa				-			c vegetation and
	Matrix (S6)		Piedmont Flo		-		-			nust be present,
Dark Sur	face (S7)		Red Parent I	Material	(F21) (M	LRA 127	, 147, 148)	unless	disturbed or p	problematic.
Restrictive L	ayer (if observed):									
Type:	Rock/g									
Depth (in	ches):	8					Hydric Sc	il Present?	Yes	No _X
Remarks:										
Refusal past	8inch depth - Gravel									

Attachment to RFI 1-51, Page 215 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

Project/Site: Starfire Renewable Power Pro	ject City/Cour	nty: Perry County	Sampling Date: 11/06/2023
Applicant/Owner: STMO bn, LLC		State: KY	Sampling Point: Wetland AF
Investigator(s): L Darnell, B Gibbons	Section, Tow	nship, Range:	
Landform (hillside, terrace, etc.): Terrace	Local relief (cond	cave, convex, none): Concave	Slope (%): 0
Subregion (LRR or MLRA): LRR N, MLRA 1		Long: -83.1383416	Datum:
Soil Map Unit Name: FaB - Fairpoint soils, u			ication: No
	-		
Are climatic / hydrologic conditions on the site	,,		o, explain in Remarks.)
Are Vegetation, Soil, or Hydro		Are "Normal Circumstances" prese	ent? Yes X No
Are Vegetation, Soil, or Hydro	logynaturally problematic? (If needed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach	site map showing sampling p	oint locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X No Is the Same within a Western Accordance Yes X No within a Western Accordance		No
Remarks: Survey conducted during the "Wet Season." assessment.	USACE APT data shows "Drier than No	ormal" conditions and "Incipient Dr	rought" for the date of
HYDROLOGY			
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required and service of the first of the	True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) X Oxidized Rhizospheres on Living Foresence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)	Surface Soil Cr Sparsely Veger X Drainage Patte Moss Trim Line Dry-Season W. Crayfish Burrov Saturation Visil	tated Concave Surface (B8) erns (B10) es (B16) eater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2) urd (D3) hic Relief (D4)
Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	No X Depth (inches): No X Depth (inches):	Wetland Hydrology Present?	? Yes <u>X</u> No
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos, previous ins	pections), if available:	

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species
2				That Are OBL, FACW, or FAC: 2 (A)
3				Total Number of Dominant
4				Species Across All Strata: 2 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
7.	•			Prevalence Index worksheet:
500/ 51.1.1		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 30 x 1 = 30
Sapling/Shrub Stratum (Plot size: 15)				FACW species 35 x 2 = 70 FAC species 0 x 3 = 0
2.				FAC species 0 x 3 = 0 FACU species 0 x 4 = 0
3.				UPL species 0 x 5 = 0
4				Column Totals: 65 (A) 100 (B)
5.			-	Prevalence Index = B/A = 1.54
6.				Hydrophytic Vegetation Indicators:
7.	•			1 - Rapid Test for Hydrophytic Vegetation
8.	•			X 2 - Dominance Test is >50%
0		-		X 3 - Prevalence Index is ≤3.0 ¹
<u> </u>		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:		of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)		or total cover.		Problematic Hydrophytic Vegetation ¹ (Explain)
Scirpus cyperinus	35	Yes	FACW	I
Typha angustifolia	20	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. Eleocharis obtusa	10	No	OBL	Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than or equal to 3.28 ft
9.				(1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
	65	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:3	3 20%	of total cover:	13	height.
Woody Vine Stratum (Plot size: 30)				
1				
2.				
3.				
4				
5				Hydrophytic
		=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present? Yes X No No
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			•
	•			

Sampling Point: Wetland AF

SOIL Sampling Point: Wetland AF

Profile Des	cription: (Describe	to the dep	th needed to docu	ment t	he indica	ator or co	onfirm the abse	ence of indi	cators.)
Depth	Matrix		Redox	(Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-5	10YR 4/1	90	10YR 4/4	10	С	PL/M	Loamy/Claye	ω. Γ	Distinct redox concentrations
	1011(4/1		1011(4)4			1 2/101	Loamyrolaye	<u> </u>	SISTEMATICAL LOCATION AND AND AND AND AND AND AND AND AND AN
									_
-									
¹ Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, M	IS=Mas	ked Sand	Grains.	² Loc	cation: PL=I	Pore Lining, M=Matrix.
Hydric Soil		·	·						for Problematic Hydric Soils ³ :
Histosol			Polyvalue Be	low Su	face (S8) (MLRA	147, 148)		luck (A10) (MLRA 147)
	pipedon (A2)		Thin Dark Su		•	, ,			Prairie Redox (A16)
	istic (A3)		Loamy Muck				-		RA 147, 148)
	en Sulfide (A4)		Loamy Gleye				-	•	ont Floodplain Soils (F19)
	d Layers (A5)		X Depleted Ma						RA 136, 147)
	uck (A10) (LRR N)		Redox Dark					-	arent Material (F21)
Deplete	d Below Dark Surface	e (A11)	Depleted Dar	k Surfa	ce (F7)			(outs	side MLRA 127, 147, 148)
Thick D	ark Surface (A12)		Redox Depre	ssions	(F8)			Very SI	hallow Dark Surface (F22)
Sandy N	Mucky Mineral (S1)		Iron-Mangan	ese Ma	sses (F12	2) (LRR N	١,	Other (Explain in Remarks)
Sandy 0	Gleyed Matrix (S4)		MLRA 136)				<u> </u>	
Sandy F	Redox (S5)		Umbric Surfa	ce (F13	3) (MLRA	122, 136	5)	³ Indicators	of hydrophytic vegetation and
Stripped	l Matrix (S6)		Piedmont Flo	odplain	Soils (F	19) (MLR	A 148)	wetland	hydrology must be present,
Dark Su	ırface (S7)		Red Parent N	/laterial	(F21) (M	LRA 127	, 147, 148)	unless	disturbed or problematic.
Restrictive	Layer (if observed):								
Type:	Rock/g	ravel							
Depth (i	nches):	5					Hydric Soil	Present?	Yes X No
Remarks:									
Refusal pas	t 5 inch depth								

Attachment to RFI 1-51, Page 218 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Starfire Renewable Power Project	ject City/C	ounty: Perry County	Sampling Date: 11/06/2023
Applicant/Owner: STMO bn, LLC		State: KY	Sampling Point: Upland AF
Investigator(s): L Darnell, B Gibbons	Section, T	ownship, Range:	<u> </u>
Landform (hillside, terrace, etc.): Terrace		oncave, convex, none): Concave	Slope (%): 0
Subregion (LRR or MLRA): LRR N, MLRA 1		Long: -83.1383240	Datum:
Soil Map Unit Name: FaB - Fairpoint soils, u			fication: No
Are climatic / hydrologic conditions on the site	e typical for this time of year?	Yes No X (If n	o, explain in Remarks.)
Are Vegetation, Soil, or Hydro	logysignificantly disturbed?	Are "Normal Circumstances" prese	ent? Yes X No
Are Vegetation, Soil, or Hydro	logynaturally problematic?	(If needed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach	site map showing sampling	point locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?		ampled Area Wetland? Yes	No X
Remarks: Survey conducted during the "Wet Season." assessment.	USACE APT data shows "Drier than	n Normal" conditions and "Incipient D	rought" for the date of
HYDROLOGY			
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required in Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Other (Explain in Remarks) No X Depth (inches): No X Depth (inches):	Surface Soil C Sparsely Vege Drainage Patte Moss Trim Lin Dry-Season W Soils (C6) Crayfish Burro Saturation Vis Stunted or Stre Geomorphic P Shallow Aquita Microtopograp FAC-Neutral T	etated Concave Surface (B8) erns (B10) es (B16) fater Table (C2) ws (C8) fible on Aerial Imagery (C9) essed Plants (D1) osition (D2) ard (D3) hic Relief (D4) fest (D5)
Saturation Present? Yes (includes capillary fringe)	No X Depth (inches):	Wetland Hydrology Present	? Yes No _X
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos, previous	Inspections), if available:	
Remarks:			

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

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:30)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2.		<u> </u>		That Are OBL, FACW, or FAC: 0 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 3 (B)
5.				
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
7				Prevalence Index worksheet:
1.		-Tatal Causa		
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 15)			FACW species 0 x 2 = 0
1				FAC species 1 x 3 = 3
2.				FACU species 65 x 4 = 260
3.				UPL species 0 x 5 = 0
4.				Column Totals: 66 (A) 263 (B)
5.		<u> </u>		Prevalence Index = B/A = 3.98
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
0				2 - Dominance Test is >50%
9.				3 - Prevalence Index is ≤3.0 ¹
9.		T-1-1 0		4 - Morphological Adaptations ¹ (Provide supporting
		=Total Cover		data in Remarks or on a separate sheet)
50% of total cover:	20%	of total cover:		
Herb Stratum (Plot size: 5				Problematic Hydrophytic Vegetation ¹ (Explain)
Lespedeza cuneata	25	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be
2. Schizachyrium scoparium	15	Yes	FACU	present, unless disturbed or problematic.
3. Schedonorus arundinaceus	10	No	FACU	Definitions of Four Vegetation Strata:
4. Symphyotrichum sp.	5	No		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5. Poa pratensis	15	Yes	FACU	more in diameter at breast height (DBH), regardless of
6. Setaria pumila	1	No	FAC	height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than or equal to 3.28 ft
9.				(1 m) tall.
·				Harle All banks as a confusion was distributed in a condition
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
	36 20%	of total cover:	15	height.
Woody Vine Stratum (Plot size: 30)				
1.				
2				
3.				
4.				
5.				
-		=Total Cover		Hydrophytic
50% of total cover:		of total cover:		Vegetation Present? Yes No X
30 % of total cover.		or total cover.		Tresent: TesNO
Remarks: (Include photo numbers here or on a sep	parate sheet.)			
				1
				· ·

Sampling Point: Upland AF

SOIL Sampling Point: Upland AF

	cription: (Describe	to the de				ator or co	onfirm the abs	ence of indi	cators.)	
Depth (inches)	Matrix	%		x Featu		1002	Taxtura		Dom	a erlea
(inches)	Color (moist)	- %	Color (moist)	%	Type ¹	Loc ²	Texture		Rem	narks
0-6	2.5Y 4/1	55	2.5Y 3/2	45	<u>C</u>	PL/M	Loamy/Clay	еу	Faint redox c	oncentrations
							,			
•										
¹ Type: C=C	oncentration, D=Dep	letion, RM	======================================	//S=Mas	ked San	d Grains.	² Lo	cation: PL=F	Pore Lining, N	/I=Matrix.
Hydric Soil		,	,							atic Hydric Soils ³ :
Histosol			Polyvalue Be	elow Su	rface (S8) (MLRA	147, 148)		uck (A10) (M	-
	pipedon (A2)		Thin Dark Su		-		-		rairie Redox	•
	istic (A3)		Loamy Muck				-		A 147, 148)	
	en Sulfide (A4)		Loamy Gleye					-	nt Floodplain	Soils (F19)
Stratified	d Layers (A5)		Depleted Ma	trix (F3))			(MLR	A 136, 147)	
2 cm Mu	uck (A10) (LRR N)		Redox Dark	Surface	(F6)			Red Pa	rent Material	(F21)
Depleted	d Below Dark Surface	e (A11)	Depleted Da	rk Surfa	ice (F7)			•	ide MLRA 12	
	ark Surface (A12)		Redox Depre						allow Dark S	, ,
	/lucky Mineral (S1)		Iron-Mangan		sses (F1	2) (LRR I	١,	Other (F	Explain in Rei	marks)
	Gleyed Matrix (S4)		MLRA 136	•				2		
	Redox (S5)		Umbric Surfa				-			vegetation and
	Matrix (S6)				ain Soils (F19) (MLRA 148) wetland hydrology must be present, ial (F21) (MLRA 127, 147, 148) unless disturbed or problematic.					
	rface (S7)		Red Parent I	Material	(F21) (M	LRA 127	, 147, 148)	unless	disturbed or p	oroblematic.
	Layer (if observed):									
Type:	Rock/g								.,	
Depth (i	nches):	6					Hydric Soil	Present?	Yes	NoX
Remarks:										
Refusal past	t 6 inch depth - Grave	el								

Attachment to RFI 1-51, Page 221 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Starfire Renewable Power Pro	ject	City/County: Breathitt	County	Sampling Date: 11/06/2023			
Applicant/Owner: STMO bn, LLC			State: KY	' Sampling Point: Wetland AH			
Investigator(s): L Darnell, B Gibbons		Section, Township, Range	 ::	<u> </u>			
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, convex	•	Slope (%): 0			
Subregion (LRR or MLRA): LRR N, MLRA 1	•		-83.13856966	Datum:			
Soil Map Unit Name: FbD - Fairpoint and Be				ication: No			
Are climatic / hydrologic conditions on the site	•		No X (If n	o, explain in Remarks.)			
Are Vegetation, Soil, or Hydro	logysignificantly di	sturbed? Are "Normal (Circumstances" prese	ent? Yes X No			
Are Vegetation, Soil, or Hydro	logynaturally probl	ematic? (If needed, ex	xplain any answers in	Remarks.)			
SUMMARY OF FINDINGS – Attach	site map showing	sampling point locat	ions, transects,	important features, etc.			
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area					
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No			
Wetland Hydrology Present?	Yes X No						
Survey conducted during the "Wet Season.' assessment.	USACE APT data snows	Dhei than Normal Condit	ions and incipient of	rought for the date of			
HYDROLOGY							
Wetland Hydrology Indicators:				ors (minimum of two required)			
Primary Indicators (minimum of one is requi		(2.4.4)	X Surface Soil C	` ,			
Surface Water (A1)	True Aquatic Plants						
High Water Table (A2)	Hydrogen Sulfide Oc						
Saturation (A3)		pheres on Living Roots (C3)Moss Trim Lines (B16)					
Water Marks (B1) Sediment Deposits (B2)	Presence of Reduce						
Drift Deposits (B3)	Thin Muck Surface (uction in Tilled Soils (C6) Crayfish Burrows (C8) ce (C7) Saturation Visible on Aerial Imagery (C9)					
Algal Mat or Crust (B4)	Other (Explain in Re	·	essed Plants (D1)				
Iron Deposits (B5)		,	Geomorphic Po				
Inundation Visible on Aerial Imagery (B	7)		Shallow Aquita	` ,			
Water-Stained Leaves (B9)	,		Microtopograpl				
Aquatic Fauna (B13)			X FAC-Neutral T	est (D5)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inch	es):					
Water Table Present? Yes	No X Depth (inch	es):					
Saturation Present? Yes	No X Depth (inch	es): Wetland	Hydrology Present?	? Yes X No			
(includes capillary fringe)							
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos	s, previous inspections), if a	available:				
Remarks:							

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species
2.				That Are OBL, FACW, or FAC:1 (A)
3.				Total Number of Dominant
4				Species Across All Strata: 1 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size: 15)				FACW species 75 x 2 = 150
1.				FAC species 0 x 3 = 0
2.				FACU species 2 x 4 = 8
3.				UPL species 0 x 5 = 0
4				Column Totals: 77 (A) 158 (B)
5.				Prevalence Index = B/A = 2.05
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
8				X 2 - Dominance Test is >50%
9				X 3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
50% of total cover:	20%	of total cover:		
Herb Stratum (Plot size: 5)	45		E4 014/	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Coleataenia rigidula	15	No	FACW	¹ Indicators of hydric soil and wetland hydrology must be
2. Echinochloa muricata	60	Yes	FACW	present, unless disturbed or problematic.
3. Andropogon virginicus		No No	FACU	Definitions of Four Vegetation Strata:
4. Agrostis sp.	5	No		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
5.				height.
6.				
7				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft
0				(1 m) tall.
8.				(1 III) tall.
9.				
9. 10.				Herb – All herbaceous (non-woody) plants, regardless
9.	82	-Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
9. 10. 11.		=Total Cover	17	Herb – All herbaceous (non-woody) plants, regardless
9		=Total Cover of total cover:		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
9	1 20%	of total cover:	17	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
9	1 20%		17	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
9	1 20%	of total cover:	17	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
9	1 20%	of total cover:	17	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
9	1 20%	of total cover:	17	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
9	1 20%	of total cover:	17	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
9	1 20%	of total cover:		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
9	20%	of total cover:		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
9	20%	of total cover:		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
9	20%	of total cover:		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
9	20%	of total cover:		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
9	20%	of total cover:		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
9	20%	of total cover:		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

Sampling Point: Wetland AH

SOIL Sampling Point: Wetland AH

Profile Des	cription: (Describe	to the dep	oth needed to docu	ment t	he indica	ator or co	onfirm the abse	nce of indi	cators.)
Depth	Matrix		Redox	(Featu	res				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-5	2.5Y 4/2	98	10YR 5/6	2	С	М	Loamy/Claye	y Pro	ominent redox concentrations
5-8	2.5Y 4/1	100	_						
<u> </u>	2.51 4/1	100							
									_
-	· -								
¹ Type: C=C	oncentration, D=Dep	letion, RM	=Reduced Matrix, M	IS=Mas	ked Sand	Grains.	² Loc	ation: PL=F	Pore Lining, M=Matrix.
Hydric Soil	·		· · · · · · · · · · · · · · · · · · ·						for Problematic Hydric Soils ³ :
Histosol			Polyvalue Be	low Su	rface (S8	(MLRA			uck (A10) (MLRA 147)
	pipedon (A2)		Thin Dark Su			-	-		Prairie Redox (A16)
	istic (A3)		Loamy Muck				-	(MLR	A 147, 148)
Hydroge	en Sulfide (A4)		Loamy Gleye	d Matri	x (F2)		_	Piedmo	ont Floodplain Soils (F19)
Stratifie	d Layers (A5)		X Depleted Ma	trix (F3))		_	(MLR	A 136, 147)
	uck (A10) (LRR N)		Redox Dark	Surface	(F6)		<u>-</u>	Red Pa	rent Material (F21)
	d Below Dark Surface	e (A11)	Depleted Dar					-	ide MLRA 127, 147, 148)
	ark Surface (A12)		Redox Depre				-		nallow Dark Surface (F22)
	Mucky Mineral (S1)		Iron-Mangan		sses (F12	2) (LRR N	l, _	Other (E	Explain in Remarks)
	Gleyed Matrix (S4)		MLRA 136	-				3	
	Redox (S5)		Umbric Surfa				-		of hydrophytic vegetation and
	d Matrix (S6)		Piedmont Flo		-		-		I hydrology must be present,
	urface (S7)		Red Parent N	/laterial	(F21) (M	LRA 127	, 147, 148)	uniess	disturbed or problematic.
	Layer (if observed):								
Type:	Rock/g	jravei 8					Hydric Soil F	Procent?	Vac V Na
Depth (i	nches).	0					nyunc son F	resent	Yes X No
Remarks:									

Attachment to RFI 1-51, Page 224 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Starfire Renewable Power Pr	roject	City/County: Breathitt County Sampling Date					
Applicant/Owner: STMO bn, LLC			State:	KY Sampling Point:	Upland AH		
Investigator(s): L Darnell, B Gibbons		Section, Township, Range		<u></u>			
Landform (hillside, terrace, etc.): Terrace	Lo	ocal relief (concave, convex,	, none): None	Slope (%):	0		
Subregion (LRR or MLRA): LRR N, MLRA	•		-83.13875128	Datum:			
Soil Map Unit Name: FbD - Fairpoint and E	<u> </u>			assification: No			
				·	- \		
Are climatic / hydrologic conditions on the si				(If no, explain in Remarks			
Are Vegetation, Soil, or Hyd			Circumstances" p		No		
Are Vegetation, Soil, or Hyd	rologynaturally prob	lematic? (If needed, ex	cplain any answer	rs in Remarks.)			
SUMMARY OF FINDINGS – Attac	h site map showing	sampling point locati	ons, transec	ts, important featur	res, etc.		
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area					
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No X			
Wetland Hydrology Present?	Yes No X		•				
Survey conducted during the "Wet Season assessment.	i." USACE APT data shows	s "Drier than Normal" condit	ions and "Incipie	nt Drought" for the date o	f		
HYDROLOGY							
Wetland Hydrology Indicators:			•	licators (minimum of two r	equired)		
Primary Indicators (minimum of one is requestrated Water (A1)		(D4.4)		oil Cracks (B6)	oo (D0)		
Surface Water (A1) High Water Table (A2)	True Aquatic Plants Hydrogen Sulfide O						
Saturation (A3)		res on Living Roots (C3)					
Water Marks (B1)	Presence of Reduce						
Sediment Deposits (B2)		eduction in Tilled Soils (C6) Crayfish Burrows (C8)					
Drift Deposits (B3)	Thin Muck Surface (
Algal Mat or Crust (B4)	Other (Explain in Re	marks)	Stunted or Stressed Plants (D1)				
Iron Deposits (B5)			Geomorphic Position (D2)				
Inundation Visible on Aerial Imagery (I	37)	Shallow Aquitard (D3)					
— Water-Stained Leaves (B9)		Microtopographic Relief (D4)					
Aquatic Fauna (B13)			FAC-Neutr	ral Test (D5)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inch						
Water Table Present? Yes Saturation Present? Yes	No X Depth (inch		Hydrology Pres	sent? Yes	No. Y		
(includes capillary fringe)	No A Deptil (incl	wetiand	nydrology Fres	entr res	No X		
Describe Recorded Data (stream gauge, n	nonitoring well, aerial photos	s. previous inspections). if a	 vailable:				
	g, p	-, -, -, -, -, -, -, -, -, -, -, -, -, -, -					
Remarks:							

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

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC:1 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 2 (B)
5.				
6				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
7				Prevalence Index worksheet:
··		=Total Cover		
F00/ of total acress				
50% of total cover:	20%	of total cover:		OBL species 0 x1 = 0
Sapling/Shrub Stratum (Plot size: 15)			FACW species 5 x 2 = 10
Platanus occidentalis	5	Yes	FACW	FAC species 10 x 3 = 30
2.				FACU species <u>85</u> x 4 = <u>340</u>
3.				UPL species0 x 5 =0
4				Column Totals: 100 (A) 380 (B)
5.		-		Prevalence Index = B/A = 3.80
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
· · · · · · · · · · · · · · · · · · ·				- I
9				3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		4 - Morphological Adaptations (Provide supporting
50% of total cover:	3 20%	of total cover:	1	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
Lespedeza cuneata	60	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be
2. Symphyotrichum pilosum	10	No	FAC	present, unless disturbed or problematic.
3. Andropogon virginicus	10	No	FACU	Definitions of Four Vegetation Strata:
4. Solidago canadensis	5	No	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5. Miscanthus sinensis	5	No	FACU	more in diameter at breast height (DBH), regardless of
6. Schedonorus arundinaceus	5	No	FACU	height.
_		110	TACO	
7.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft
8				(1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
	95	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:	48 20%	of total cover:	19	height.
Woody Vine Stratum (Plot size: 30)	<u></u>			
1.				
2				
2				
4				
5				Hydrophytic
		=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present?
Remarks: (Include photo numbers here or on a sep	arate sheet.)			
Transaction (motivate priority manually motivate of an a cop				

Sampling Point: Upland AH

SOIL Sampling Point: Upland AH

Profile Desc	cription: (Describe	to the de	oth needed to docu	ıment t	he indica	ator or c	onfirm the ab	sence of indic	ators.)	
Depth	Matrix		Redo	x Featu	res					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Rem	arks
0-3	2.5Y 5/2	100								
3-5	10YR 4/1	100								
-								,		
		· ——								
-		·								
										_
	oncentration, D=Dep	letion, RM	=Reduced Matrix, N	1S=Mas	ked Sand	d Grains.	² L	ocation: PL=P		
Hydric Soil			.							tic Hydric Soils ³ :
Histosol			Polyvalue Be		-	-	-		ıck (A10) (M I	-
	pipedon (A2)		Thin Dark Su				-		rairie Redox	(A16)
	istic (A3)		Loamy Muck	•	. , .	ILRA 13	5)	-	A 147, 148)	
	en Sulfide (A4)		Loamy Gleye		, ,				nt Floodplain	Soils (F19)
	d Layers (A5)		Depleted Ma					-	A 136, 147)	
	uck (A10) (LRR N)		Redox Dark					Red Par	ent Material	(F21)
	d Below Dark Surfac	e (A11)	Depleted Da					•	de MLRA 12	
Thick Da	ark Surface (A12)		Redox Depre	essions	(F8)			Very Sha	allow Dark S	urface (F22)
Sandy N	Mucky Mineral (S1)		Iron-Mangan	ese Ma	sses (F12	2) (LRR I	١,	Other (E	xplain in Rer	narks)
Sandy G	Gleyed Matrix (S4)		MLRA 136	5)						
Sandy F	Redox (S5)		Umbric Surfa	ace (F1	3) (MLRA	122, 13	6)	³ Indicators o	f hydrophytic	vegetation and
Stripped	l Matrix (S6)		Piedmont Flo	oodplair	Soils (F	19) (MLR				
Dark Su	ırface (S7)		Red Parent I	Material	(F21) (M	LRA 127	, 147, 148)	unless d	isturbed or p	roblematic.
Restrictive	Layer (if observed):									
Type:	Rock/g	jravel								
Depth (i	nches):	5					Hydric Soi	I Present?	Yes	NoX
Remarks:										

Attachment to RFI 1-51, Page 227 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Starfire Renewable Power Pro	oject	City/County: Breathitt County Sampling Dat					
Applicant/Owner: STMO bn, LLC			State:	KY Sampling Point	: Wetland Al		
Investigator(s): L Darnell, B Gibbons		Section, Township, Range					
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, convex		Slope (%):	0		
Subregion (LRR or MLRA): LRR N, MLRA			-83.13981532	Datum:			
Soil Map Unit Name: FbD - Fairpoint and Bo				assification: No			
					\		
Are climatic / hydrologic conditions on the sit	•			(If no, explain in Remark			
Are Vegetation, Soil, or Hydro			Circumstances" p		_ No		
Are Vegetation, Soil, or Hydro	ologynaturally probl	ematic? (If needed, ex	cplain any answe	ers in Remarks.)			
SUMMARY OF FINDINGS – Attach	site map showing s	sampling point locat	ons, transec	cts, important featu	res, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area					
Hydric Soil Present?	Yes X No	within a Wetland?	Yes	X No			
Wetland Hydrology Present?	Yes X No						
Remarks: Survey conducted during the "Wet Season. assessment.	" USACE APT data shows	s "Drier than Normal" condit	ions and "Incipie	ent Drought" for the date	of		
HYDROLOGY							
Wetland Hydrology Indicators:			-	dicators (minimum of two	required)		
Primary Indicators (minimum of one is requ		(2.4)		oil Cracks (B6)	(5.0)		
Surface Water (A1)	True Aquatic Plants						
High Water Table (A2) Saturation (A3)	Hydrogen Sulfide Oc						
Water Marks (B1)	Presence of Reduce	neres on Living Roots (C3) Moss Trim Lines (B16) ced Iron (C4) Dry-Season Water Table (C2)					
Sediment Deposits (B2)		eduction in Tilled Soils (C6) Crayfish Burrows (C8)					
Drift Deposits (B3)	Thin Muck Surface (
Algal Mat or Crust (B4)	Other (Explain in Re		X Stunted or Stressed Plants (D1)				
Iron Deposits (B5)			Geomorphic Position (D2)				
Inundation Visible on Aerial Imagery (B	7)		Shallow Aquitard (D3)				
Water-Stained Leaves (B9)		Microtopographic Relief (D4)					
Aquatic Fauna (B13)			FAC-Neut	ral Test (D5)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inch						
Water Table Present? Yes	No X Depth (inch		Ukada da asa Basa	10 V V	NI -		
Saturation Present? Yes (includes capillary fringe)	No X Depth (inch	es): wetiand	Hydrology Pres	sent? Yes X	_ NO		
Describe Recorded Data (stream gauge, m	onitoring well, aerial photo:	s, previous inspections), if a					
	ormorning from acriai priotos	s, p. 6					
Remarks:							

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species
2				That Are OBL, FACW, or FAC:4 (A)
3				Total Number of Dominant
4.				Species Across All Strata: 4 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC:100.0%(A/B)
7				Prevalence Index worksheet:
	$\overline{}$	=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species x 1 = 0
Sapling/Shrub Stratum (Plot size: 15)				FACW species 50 x 2 = 100
1.				FAC species 10 x 3 = 30
2				FACU species 8 x 4 = 32
3				UPL species0 x 5 =0
4				Column Totals: 68 (A) 162 (B)
5				Prevalence Index = B/A = 2.38
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8.				X 2 - Dominance Test is >50%
9.				X 3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20%	of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
Miscanthus sinensis	3	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be
2. Lespedeza cuneata	5	No	FACU	present, unless disturbed or problematic.
3. Setaria pumila	10	Yes	FAC	Definitions of Four Vegetation Strata:
4. Scirpus cyperinus	10	Yes	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5. Echinochloa muricata	30	Yes	FACW	more in diameter at breast height (DBH), regardless of
6. Coleataenia rigidula	10	Yes	FACW	height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than or equal to 3.28 ft
9.				(1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11		Total Cavar		
50% of total cover: 3-		=Total Cover	1.4	Woody Vine – All woody vines greater than 3.28 ft in height.
	20%	of total cover:	14	
Woody Vine Stratum (Plot size: 30)				
1.				
2.				
3.				
4.				
5				Hydrophytic
50% 51.1.		=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present? YesX
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			

Sampling Point:

Wetland Al

SOIL Sampling Point: Wetland AI

Profile Desc	cription: (Describe	to the dep	oth needed to docu	ment t	he indica	tor or c	onfirm the absen	ce of indic	ators.)	
Depth	Matrix			Featur						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-5	2.5Y 4/1	100					Loamy/Clayey			
	2.01 1/1	100								
-							,			
5-9	2.5Y 4/1	80	5Y 5/2	20	С	M	Loamy/Clayey	F	aint redox concentration	าร
							,	_		
,										
-										
	oncentration, D=Depl	letion, RM	=Reduced Matrix, M	IS=Mas	ked Sand	l Grains.			ore Lining, M=Matrix.	
Hydric Soil	Indicators:						Ir	ndicators f	or Problematic Hydric	Soils³:
Histosol	` '		Polyvalue Be			-	_		ıck (A10) (MLRA 147)	
Histic E	pipedon (A2)		Thin Dark Su	,	, .			Coast P	rairie Redox (A16)	
Black Hi	istic (A3)		Loamy Muck	y Miner	al (F1) (N	ILRA 13	6)	-	A 147, 148)	
	en Sulfide (A4)		Loamy Gleye				_	Piedmor	nt Floodplain Soils (F19)	
	d Layers (A5)		X Depleted Ma					-	A 136, 147)	
	uck (A10) (LRR N)		Redox Dark				_		ent Material (F21)	
	d Below Dark Surface	e (A11)	Depleted Dar					-	de MLRA 127, 147, 148	-
	ark Surface (A12)		Redox Depre						allow Dark Surface (F22	()
	Mucky Mineral (S1)		Iron-Mangan		sses (F12	2) (LRR	N,	Other (E	xplain in Remarks)	
	Gleyed Matrix (S4)		MLRA 136				3.			
	Redox (S5)		Umbric Surfa		-		-		f hydrophytic vegetation	
	I Matrix (S6)		Piedmont Flo		-		-		hydrology must be prese	
	rface (S7)		Red Parent N	/laterial	(F21) (M	LRA 127	7, 147, 148)	unless d	isturbed or problematic.	
	Layer (if observed):									
Type:	Rock/g									
Depth (i	nches):	9					Hydric Soil Pr	esent?	Yes X No	
Remarks:										

Attachment to RFI 1-51, Page 230 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Starfire Renewable Power Pro	ject	City/County: Breath	nitt County	Sampling Date: 11/06/2023			
Applicant/Owner: STMO bn, LLC	-	<u> </u>	State: KY	Sampling Point: Upland Al			
Investigator(s): L Darnell, B Gibbons		Section, Township, Ran	nge:				
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, conv	•	Slope (%): 0			
Subregion (LRR or MLRA): LRR N, MLRA 1			g: -83.13994262	Datum:			
Soil Map Unit Name: FbD - Fairpoint and Be			NWI classifica				
			-				
Are climatic / hydrologic conditions on the sit				explain in Remarks.)			
Are Vegetation, Soil, or Hydro	ologysignificantly dis	sturbed? Are "Norma	al Circumstances" present	t? Yes X No			
Are Vegetation, Soil, or Hydro	ologynaturally proble	ematic? (If needed,	explain any answers in R	emarks.)			
SUMMARY OF FINDINGS – Attach	site map showing s	sampling point loca	ations, transects, in	nportant features, etc.			
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area					
Hydric Soil Present?	Yes X No	within a Wetland?	Yes	No X			
Wetland Hydrology Present?	Yes X No						
Remarks: Survey conducted during the "Wet Season.' assessment.	' USACE APT data shows	"Drier than Normal" con	iditions and "Incipient Droi	ught" for the date of			
HYDROLOGY							
Wetland Hydrology Indicators:				Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is requi		(D14)	Surface Soil Cra				
Surface Water (A1) High Water Table (A2)	True Aquatic Plants Hydrogen Sulfide Od						
Saturation (A3)		eres on Living Roots (C3) Moss Trim Lines (B16)					
Water Marks (B1)	Presence of Reduce						
Sediment Deposits (B2)		ction in Tilled Soils (C6) Crayfish Burrows (C8)					
Drift Deposits (B3)	Thin Muck Surface (aturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Explain in Rei	plain in Remarks) Stunted or Stressed Plants (D1)					
Iron Deposits (B5)		Geomorphic Position (D2)					
Inundation Visible on Aerial Imagery (B	7)		Shallow Aquitard	I (D3)			
Water-Stained Leaves (B9)		Microtopographic Relief (D4)					
Aquatic Fauna (B13)			FAC-Neutral Tes	st (D5)			
Field Observations:							
Surface Water Present? Yes	No X Depth (inch						
Water Table Present? Yes Saturation Present? Yes	No X Depth (inche			Vac V Na			
Saturation Present? Yes (includes capillary fringe)	No X Depth (inch	es) wetiai	nd Hydrology Present?	Yes <u>X</u> No			
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos	previous inspections)	if available:				
	g, p	,, p ,,					
Remarks:							

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

Tree Stratum (Plot size:30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1.				Number of Dominant Species			
2.				That Are OBL, FACW, or FAC:1 (A)			
3. 4.				Total Number of Dominant Species Across All Strata: 2 (B)			
5.				Percent of Dominant Species			
6.				That Are OBL, FACW, or FAC: 50.0% (A/B)			
7.				Prevalence Index worksheet:			
		Total Cover		Total % Cover of: Multiply by:			
50% of total cover:	20%	of total cover:		OBL species 0 x 1 = 0			
Sapling/Shrub Stratum (Plot size: 15)				FACW species 3 x 2 = 6			
1.				FAC species 43 x 3 = 129			
2.				FACU species 36 x 4 = 144			
3.				UPL species 0 x 5 = 0			
4.				Column Totals: 82 (A) 279 (B)			
5.				Prevalence Index = B/A = 3.40			
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 Cover		4 - Morphological Adaptations ¹ (Provide supporting			
50% of total cover:	data in Remarks or on a separate sheet)						
Herb Stratum (Plot size: 5)	Problematic Hydrophytic Vegetation ¹ (Explain)						
1. Juncus tenuis	25	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must be			
2. Lespedeza cuneata	30	Yes	FACU	present, unless disturbed or problematic.			
3. Symphyotrichum pilosum	15	No	FAC	Definitions of Four Vegetation Strata:			
4. Andropogon virginicus	3	No	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or			
5. Solidago canadensis	3	No	FACU	more in diameter at breast height (DBH), regardless of			
6. Scirpus cyperinus	3	No	FACW	height.			
7. Setaria pumila	3	No	FAC	Sapling/Shrub – Woody plants, excluding vines, less			
8.				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
9				Herb – All herbaceous (non-woody) plants, regardless			
11.				of size, and woody plants less than 3.28 ft tall.			
		Total Cover		Woody Vine – All woody vines greater than 3.28 ft in			
E00/ 5: : :	1 20%	of total cover:	17	height.			
50% of total cover: 4							
50% of total cover: 4 Woody Vine Stratum (Plot size: 30)							
Woody Vine Stratum (Plot size: 30)							
Woody Vine Stratum (Plot size: 30) 1.		<u> </u>	<u> </u>				
Woody Vine Stratum (Plot size: 30) 1	<u> </u>						
Woody Vine Stratum (Plot size:		=		Hydrophytic			
Woody Vine Stratum (Plot size: 30) 1. 2. 3. 4.		=Total Cover		Hydrophytic Vegetation			
Woody Vine Stratum (Plot size: 30) 1. 2. 3. 4.		=Total Cover		1 7 . 7			
Woody Vine Stratum (Plot size: 30) 1.	20%			Vegetation			
Woody Vine Stratum (Plot size:	20%			Vegetation			
Woody Vine Stratum (Plot size:	20%			Vegetation			
Woody Vine Stratum (Plot size:	20%			Vegetation			
Woody Vine Stratum (Plot size:	20%			Vegetation			
Woody Vine Stratum (Plot size:	20%			Vegetation			

Sampling Point:

Upland Al

SOIL Sampling Point: Upland AI

		o the de	-			ator or c	onfirm the absence	of indicators.)		
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Featur %	es Type ¹	Loc ²	Texture	Remarks		
0-5	2.5Y 4/1	70	2.5Y 4/3	30	C	PL/M	Loamy/Clayey	Distinct redox concentrations		
5-8	2.5Y 4/2	60	5Y 4/1	40		M	Loamy/Clayey			
	2.51 4/2		31 4/1	40		IVI	Loanly/Clayey			
¹Type: C=Co	ncentration, D=Depl	etion, RM	=Reduced Matrix, M	1S=Mas	ked San	d Grains.		n: PL=Pore Lining, M=Matrix.		
Hydric Soil Ir								cators for Problematic Hydric Soils ³ :		
Histosol (•		Polyvalue Be		-			2 cm Muck (A10) (MLRA 147)		
	pedon (A2)		Thin Dark Su					Coast Prairie Redox (A16)		
Black His			Loamy Muck	•		/ILRA 13	•	(MLRA 147, 148)		
	Sulfide (A4)		Loamy Gleye					Piedmont Floodplain Soils (F19)		
	Layers (A5)		X Depleted Ma					(MLRA 136, 147)		
	k (A10) (LRR N)		Redox Dark		-			Red Parent Material (F21)		
	Below Dark Surface	(A11)	Depleted Da					(outside MLRA 127, 147, 148)		
Thick Dar	k Surface (A12)	Redox Depressions (F8) Very Shallow Dark Surface (F22)								
	ıcky Mineral (S1)		Iron-Manganese Masses (F12) (LRR N, Other (Explain in Remarks)							
	eyed Matrix (S4)		MLRA 136)							
Sandy Re			Umbric Surfa							
	Matrix (S6)		Piedmont Flo				· · · · · · · · · · · · · · · · · · ·			
Dark Surf			Red Parent I	Material	(F21) (M	ILRA 127	, 147, 148)	unless disturbed or problematic.		
	ayer (if observed):									
Type:	Rock/gr									
Depth (in	ches):	8					Hydric Soil Pres	ent? Yes X No		
Remarks:										

ttachment to RFI 1-51, Page 233 of 316		
	A so so a so ality D	
	Appendix D	
	Photographs	
	i notograpno	

Project No.: 23526



Lat. 37.406875°, Long. -83.132714° | Wetland A



Photo Point 96 | 2023-11-07 Lat. 37.41638°, Long. -83.13625° | Upland Point A







Photo Point 105 | 2023-11-07

Lat. 37.40846°, Long. -83.13296° | Isolated Wetland C



Photo Point 9 | 2023-11-06

Lat. 37.40925°, Long. -83.13157° | Isolated Wetland D







Photo Point 7 | 2023-11-06

Lat. 37.40666°, Long. -83.13045° | Isolated Wetland E



Lat. 37.40406°, Long. -83.12968° | Isolated Wetland F

Starfire Renewable Power Project Water / Wetland Delineation November 2023 Project No.: 23526





Photo Point 4 | 2023-11-06

Lat. 37.40188°, Long. -83.1288° | Isolated Wetland G



Photo Point 11 | 2023-11-06

Lat. 37.41264°, Long. -83.12733° | Isolated Wetland H, West side





Photo Point 11 | 2023-11-06

Lat. 37.41264°, Long. -83.12733° | Isolated Wetland H, Road runs through



Photo Point 11 | 2023-11-06

Lat. 37.41264°, Long. -83.12733° | Isolated Wetland H, East side





Photo Point 2 | 2023-11-06

Lat. 37.4027°, Long. -83.12799° | Isolated Wetland I



Photo Point 3 | 2023-11-06

Lat. 37.40215°, Long. -83.12789° | Isolated Wetland J





Lat. 37.40183°, Long. -83.12411° | Isolated Wetland K



Photo Point 29 | 2023-11-06 Lat. 37.40298°, Long. -83.12305° | Isolated Wetland L

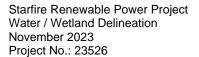






Photo Point 81 | 2023-11-07 Lat. 37.41321°, Long. -83.1209° | Isolated Wetland M



Photo Point 81 | 2023-11-07 Lat. 37.41321°, Long. -83.1209° | Isolated Wetland M

Starfire Renewable Power Project Water / Wetland Delineation November 2023 Project No.: 23526





Lat. 37.41321°, Long. -83.1209° | Isolated Wetland M



Photo Point 81 | 2023-11-07 Lat. 37.41321°, Long. -83.1209° | Isolated Wetland M





Photo Point 83 | 2023-11-07

Lat. 37.41285°, Long. -83.12041° | Isolated Wetland M



Photo Point 88 | 2023-11-07

Lat. 37.41585°, Long. -83.1185° | Isolated Wetland N





Photo Point 30 | 2023-11-06 Lat. 37.40396°, Long. -83.1202° | Isolated Wetland O



Lat. 37.40355°, Long. -83.11887° | Isolated Wetland P





Photo Point 31 | 2023-11-06

Lat. 37.40288°, Long. -83.11747° | Isolated Wetland Q



Photo Point 69 | 2023-11-07

Lat. 37.41225°, Long. -83.11204° | Isolated Wetland S

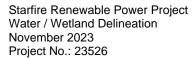






Photo Point 35 | 2023-11-06

7.4065°, Long. -83.11103° | Bermed, Isolated Wetland T, Drain from above dry, No channel



Photo Point 37 | 2023-11-06

Lat. 37.40653°, Long. -83.11163° | Isolated Wetland T, No outlet





Photo Point 50 | 2023-11-07

Lat. 37.40713°, Long. -83.10709° | Isolated Wetland U



Lat. 37.40767°, Long. -83.10684° | Isolated Wetland V

Starfire Renewable Power Project Water / Wetland Delineation November 2023 Project No.: 23526





Photo Point 60 | 2023-11-07

Lat. 37.42068°, Long. -83.10659° | Isolated Wetland W



Lat. 37.4146°, Long. -83.10295° | Isolated Wetland X

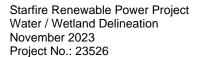






Photo Point a-91 | 2023-11-06

Lat. 37.405931°, Long. -83.131881° | Isolated Wetland Y



Photo Point a-1 | 2023-11-06

Lat. 37.401489°, Long. -83.130736° | Isolated Wetland Z





Photo Point a-4 | 2023-11-06

Lat. 37.401181°, Long. -83.131247° | Isolated Wetland AA



Photo Point a-63 | 2023-11-06

Lat. 37.400936°, Long. 37.400936° | Isolated Wetland AB and Pond 2





Photo Point a-47 | 2023-11-06

Lat. 37.400178°, Long. -83.133156° | Isolated Wetland AC



Photo Point a-46 | 2023-11-06

Lat. 37.400283°, Long. -83.133483° | Isolated Wetland AD





Photo Point a-7 | 2023-11-06

Lat. 37.400936°, Long. -83.134269° | Isolated Wetland AE



Photo Point a-20 | 2023-11-06

Lat. 37.402492°, Long. -83.138275° | Isolated Wetland AF





Photo Point a-118 | 2023-11-06

Lat. 37.406253°, Long. -83.142897° | Isolated Wetland AG



Photo Point a-85 | 2023-11-06

Lat. 37.406503°, Long. -83.139778° | Isolated Wetland AI





Photo Point a-119 | 2023-11-06

Lat. 37.409661°, Long. -83.143211° | Isolated Wetland AJ



Photo Point a-9 | 2023-11-06

Lat. 37.401047°, Long. -83.134589° | Environmental Measurement Device





Photo Point 52 | 2023-11-07

Lat. 37.41481°, Long. -83.10201° | Isolated Open Water 1



Photo Point a-65 | 2023-11-07

Lat. 37.403289°, Long. -83.134133° | Isolated Open Water 2





Photo Point a27- | 2023-11-06

Lat. 37.402672°, Long. -83.141153° | Typical Ditch / Drainage Channel



Photo Point 75 | 2023-11-07

Lat. 37.42105°, Long. -83.12442° | Typical Ditch / Drainage Channel





Photo Point 36 | 2023-11-06

Lat. 37.40684°, Long. -83.11129° | Typical large reinforced ditch / drainage channel



Photo Point a-30 | 2023-11-06

Lat. 37.402481°, Long. -83.141547° | Typical dry basin





Photo Point a- 50 | 2023-11-06

Lat. 37.404514°, Long. -83.141153° | Chestnut Gap Cemetery



Photo Point a-75 | 2023-11-07

Lat. 37.406414°, Long. -83.139275° | Site topography





Photo Point a-73 | 2023-11-07

Lat. 37.405978°, Long. -83.140822° | Site topography



Photo Point a-116 | 2023-11-07

Lat. 37.404419°, Long. -83.142569° | Site Topography





Photo Point 22 | 2023-11-06

Lat. 37.40688°, Long. -83.12343° | Upland woods habitat



Photo Point 27 | 2023-11-06

Lat. 37.41059°, Long. -83.12072° | View within forestry research plot with planted pines







Starfire Renewable Power Project – Additional Northwest Area

Breathitt County, Kentucky

Water / Wetland Delineation Report and Protected Species Summary

Submitted to:

STMO bn, LLC

c/o: Mr. Bob Roy Director of Permitting, BrightNight

13123 E Emerald Coast Parkway Suite B#158 Inlet Beach, FL 32461

Submittal Date:

August 21, 2024

August 21, 2024

Mr. Bob Roy STMO bn, LLC 13123 E Emerald Coast Parkway Ste B#158 Inlet Beach, FL 32461

Re: Water/Wetland Delineation Report –

Starfire Renewable Power Project – Additional Northwest Area

Dear Mr. Roy:

Bacon Farmer Workman Engineering & Testing, Inc. (BFW) is pleased to submit our report documenting the findings of the Water/Wetland Delineation for an additional area at the Starfire Renewable Power Project located in Breathitt County, Kentucky. The study area for this report consists of an approximately 190-acre area located northwest of the 1,800-acre Starfire site that was previously documented in BFW's delineation report dated February 1, 2024.

The purpose of the delineation was to gather sufficient information to render an independent professional opinion about whether jurisdictional waters and wetlands exist within the study area. The wetland delineation was conducted according to the guidelines set forth by the 1987 Corps of Engineers Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0). The site assessment also evaluated potential habitat for federally protected species, which could require coordination under Section 7 of the Endangered Species Act if construction involves federal authorizations or funding.

The United States Army Corps of Engineers (USACE) is the regulating authority of Section 404 of the Clean Water Act (CWA). This regulating entity must make the final decision with regards to the extent and jurisdictional status of any water/wetland features on this site. The delineation documented five wetlands totaling 0.24 acre and five open water ponds totaling 0.68 acre. No streams were delineated on the site.

We appreciate the opportunity to serve you and look forward to future association with you on this and other projects. If you have questions concerning this report or require further clarification of the findings, please call our office at (502) 526-3613.

Sincerely,

BACON | FARMER | WORKMAN

ENGINEERING & TESTING, INC.

Laura Darnell

Wetland Scientist / Ecologist

www.bfwengineers.com

TABLE OF CONTENTS

1.	INTR	ODUCTI	ON	2
	1.1	PURPO	SE	2
	1.2	SITE DE	ESCRIPTION	
2.	TECH	HNICAL I	DEFINITIONS	
	2.1		NDS	
		2.1.1	Hydrophytic Vegetation	3
		2.1.2	Hydric Soils	3
		2.1.3	Hydrology	4
	2.2	STREA	MS AND DRAINAGES	4
3.	MET	HODS &	GENERAL SITE CHARACTERISTICS	5
	3.1	WETLA	ND DELINEATION	5
		3.1.1	Soils	5
		3.1.2	Vegetation	5
		3.1.3	Hydrology	
	3.2	STREA	M ÁSSESŠMENT	
4.			NAL WATERS SUMMARY & DESCRIPTIONS	
	4.1	WETLA	NDS	9
	4.2	DRAINA	\GES	10
	4.3	OPEN V	NATER PONDS	10
5.	PRO	TECTED	SPECIES AND CRITICAL HABITAT SUMMARY	12
	5.1	PROTE	CTED SPECIES SUMMARY	12
6.	DISC	USSION		13
	6.1		S/WETLANDS	
	6.2	FEDER.	ALLY PROTECTED SPECIES	13
7	RFFI	FRENCE	S	14

APPENDICES

Appendix A – Maps

Appendix B – Wetland Determination Data Forms

Appendix C – Photographs Appendix D – USFWS Documentation

LIST OF ACRONYMS AND ABBREVIATIONS

BFW Bacon Farmer Workman Engineering & Testing, Inc.

CWA Clean Water Act

DMRE Division of Mine Reclamation and Enforcement

EPA Environmental Protection Agency

ESA Endangered Species Act

FAC Facultative

FACW Facultative Wetland FACU Facultative Upland

FEMA Federal Emergency Management Agency

KDOW Kentucky Division of Water

NHD National Hydrography Dataset

NRCS Natural Resources Conservation Service

NWI National Wetland Inventory NWPL National Wetland Plant List

OBL Obligate Wetland

PEM Palustrine Emergent Wetland

PUB Palustrine Unconsolidated Bottom (Pond)

RBP Rapid Bioassessment Protocol

SSURGO Soil Survey Geographic Database

UPL Obligate Upland

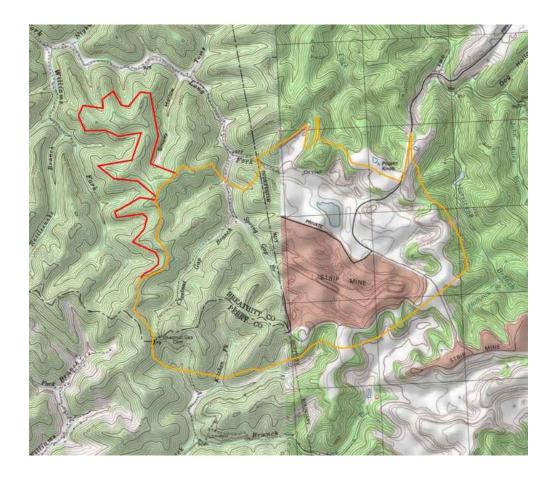
USACE United States Army Corps of Engineers
USDA United States Department of Agriculture
USFWS United States Fish and Wildlife Service

USGS United States Geological Survey

ABSTRACT

Bacon Farmer Workman Engineering & Testing, Inc. (BFW) performed a water/wetland delineation for an additional area at the Starfire Renewable Power Project located in Breathitt County, Kentucky. The study area for this report consists of an approximately 190-acre area located adjacent to and northwest of the 1,800-acre Starfire site that was previously documented in BFW's delineation report dated February 1, 2024. The delineation was performed to determine if wetlands, ponds, and/or streams were located within the study area in preparation of future development activities. The site assessment also evaluated potential habitat for federally protected species, which could require coordination under Section 7 of the Endangered Species Act if construction involves federal authorizations or funding.

Field staff identified five wetlands totaling 0.24 acre and five open water ponds totaling 0.68 acre. No streams were delineated on the site. Of the delineated features, two wetlands and one pond are expected to be classified as being under the jurisdiction of the United States Army Corps of Engineers (USACE). It should be noted that the extent and jurisdictional status of water/wetland features on this site are tentative and subject to approval by the USACE for final determination. Suitable habitat for federally protected species within the study area includes habitat for the Monarch butterfly, marginal foraging habitat for the gray bat, and a small amount of potential summer habitat for the Indiana bat, northern long-eared bat, and tricolored bat.



1. INTRODUCTION

1.1 PURPOSE

Bacon Farmer Workman Engineering & Testing, Inc. (BFW) performed a water/wetland delineation on an approximately 190-acre additional area for the Starfire Renewable Power Project (**Figure 1**). The field work was completed on August 12, 2024. Figures referenced in this text are included in **Appendix A** at the end of this report.

The wetland delineation was conducted according to the guidelines set forth by the 1987 Corps of Engineers Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0). The United States Army Corps of Engineers (USACE) is the regulating authority of Section 404 of the Clean Water Act (CWA). This regulating entity must make the final decision with regards to the extent and jurisdictional status of any water/wetland features on this site.

The purpose of this study was to investigate the study area, identify areas meeting the technical criteria for wetlands, delineate the jurisdictional extent of the wetland basins, map other aquatic resources, and classify the wetland habitat. This assessment will be the basis on which regulated impacts to these resources will be determined for future project construction activities.

The study area was also reviewed to determine if federally protected species and their habitats had the potential to exist within the project area. The presence of potential habitat for federally protected species within a construction footprint could require coordination under Section 7 of the Endangered Species Act if a project involves federal authorizations or funding.

1.2 SITE DESCRIPTION

The study area consists of an approximately 190-acre area located adjacent to and northwest of the 1,800-acre Starfire site that was previously documented in a delineation report dated February 1, 2024. The study area is located in southeastern Breathitt County, Kentucky and has a project centroid located at 37.4222, -83.1431 (**Figure 1**).

The study area has been extensively altered by coal mining activities and was recently reclaimed. The water/wetland delineation documented five wetlands totaling 0.24 acre and five open water ponds totaling 0.68 acre (**Figure 2**). No streams were delineated on the site.

2. TECHNICAL DEFINITIONS

2.1 WETLANDS

Section 404 of the Clean Water Act defines Wetlands as:

"areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

The Environmental Protection Agency (EPA) and the Corps use the 1987 Corps of Engineers Wetlands Delineation Manual and Regional Supplements to define wetlands for the Clean Water Act Section 404 permit program. Section 404 requires a permit from the Corps or authorized state for the discharge of dredged or fill material into the waters of the United States, including wetlands.

The 1987 Corps of Engineers Wetlands Delineation Manual and Regional Supplements organize characteristics of a potential wetland into three (3) categories: soils, vegetation, and hydrology. The manual and supplements contain criteria for each category. With this approach, an area that meets all three (3) criteria is considered a wetland. These criteria are detailed below:

2.1.1 Hydrophytic Vegetation

Hydrophytic vegetation, due to morphological, physiological, and/or reproductive adaptation(s), has the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions. Individual species have been assigned a wetland indicator status by the National Wetland Plant List designated by the USACE.

A plant community is considered hydrophytic when more than 50% of the dominant species from all strata are Obligate Wetland (OBL), Facultative Wetland (FACW), or Facultative (FAC). If all dominants are FAC, the vegetation criteria can be disregarded, and the determination is based on soil and hydrology criteria.

Indicator Status	Probability of Occurrence in Wetlands
Obligate Wetland - OBL	> 99%
Facultative Wetland - FACW	67-99%
Facultative - FAC	34-66%
Facultative Upland - FACU	1-33%
Obligate Upland - UPL	< 1%

Secondary vegetation rules include observed physiological adaptations, plants growing in saturated soils, and the FAC neutral test.

2.1.2 Hydric Soils

Hydric soils are present if they have been classified as hydric or when they possess characteristics associated with anaerobic soil conditions. Hydric soils are those that are gleyed or have a low chroma matrix (2 or less) with redoximorphic features, or a matrix chroma of 1 with or without redoximorphic

feature in the upper 12 inches. These designations are made utilizing a Munsell Soil Color Chart.

2.1.3 Hydrology

Hydrology in wetlands occurs in areas inundated permanently or periodically at mean water depths < 6.6 feet, or if the soil is saturated to the surface for five percent (5%) of the prevalent vegetation's growing season. Indicators of wetland hydrology could be present above or below the surface.

Primary indicators of hydrology include, but are not limited to:

- inundation
- saturation in the upper 12 inches
- oxidized rhizospheres
- watermarks on standing structures
- water-stained leaves
- sediment deposits

Secondary indicators of wetland hydrology [two (2) or more required] include, but are not limited to:

- FAC neutral test
- a sparsely vegetated concave surface
- wetland drainage patterns
- crayfish burrows

2.2 STREAMS AND DRAINAGES

Stream classifications of perennial, intermittent, and ephemeral were applied based on definitions in publications created or endorsed by the Kentucky Energy and Environment Cabinet, Department for Environmental Protection (KDOW 2011 and Tetra Tech, Undated).

Perennial streams were characterized as having flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow.

Intermittent streams were characterized as having flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Ephemeral streams were characterized as typically having flowing water only during rainfall events and for a short time afterward in a typical year. Ephemeral stream beds are located above the water table year-round, so groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

3. METHODS & GENERAL SITE CHARACTERISTICS

3.1 WETLAND DELINEATION

The wetland delineation was conducted according to the guidelines set forth by the 1987 Corps of Engineers Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0).

3.1.1 Soils

Soils were observed to determine if hydric soil characteristics were present. Soils were examined at shallow test pits dug with a drain spade and were observed at a depth necessary to confirm hydric soil characteristics. Typical soil profile depths are within 12-18 inches below ground surface to allow for: (1) observation of an adequate portion of the soil profile to determine presence/absence of hydric soil characteristics; (2) observation of hydrology including depth to the water table and saturated soils; and (3) identification of disturbances (e.g., buried horizon, plow line, etc.). Where site conditions preclude observing soil profile depths at the typical 12-18 inches below ground surface or where observed hydric soil indicators are documented above or below 12-18 inches below ground surface, justification is provided. Soil color determinations were made using Munsell Soil Color Charts (Gretag-Macbeth 1994).

Site soil characteristics were compared to those mapped and described in the Soil Survey Geographic (SSURGO) Databases for Breathitt County (USDA 2023). Hydric soil characteristics were compared to those identified in the Eastern Mountains and Piedmont Regional Supplement (USACE 2010) and the most recent version of the Natural Resources Conservation Service (NRCS) publication Field Indicators of Hydric Soils in the United States, Version 7.0 (USDA 2010). Hydric Soil Category ratings (USDA 2022) were also reviewed for soils in the project area. The soil survey map for the study area is presented in **Figure 3.** The soil types within the study area are predominantly FbE: Fairpoint and Bethesda soils, 2-70% slopes, benched, stony, with some uMgmF: Matewan-Gilpin-Marrowbone complex, 12-80% slopes.

Soils were examined at several locations including three data points which are depicted in **Figure 3** and the data forms are attached in **Appendix B**. Hydric soil indicators observed included the Depleted Matrix indicator (F3) and Sandy Redox indicator (S5).

3.1.2 Vegetation

Wetland plant species nomenclature follows the National Wetland Plant List (USACE 2020). Identification was aided, when necessary, with field guides for the region. Vegetation was sampled in plots:

- 30-ft radius for tree stratum
- 15-ft radius for sapling and shrub stratum
- 5-ft radius for herb stratum
- 30-ft radius for woody vines

Vegetation was classified using the USACE 2020 National Wetland Plant list (NWPL). Unless otherwise stated, aerial coverage dominance was determined

using the 50/20 rule. Under the 50/20 rule, any plant species that equals or exceeds 20% of the aerial coverage of the plot is a dominant plant. In addition, the cumulative total of all dominant plants (OBL, FACW, or FAC) must be equal to or greater than 50% of the aerial coverage of the plot. If no plant species equals or exceeds 20% of the cumulative total aerial coverage of the plot, then the dominant plants are the plants that when ranked in decreasing order of abundance and summed, immediately exceed 50% of the plots aerial coverage when added together.

Currently, the study area mainly contains land in various stages of reclamation. Habitats within the study area include open field, scrub/shrub, upland woods, and emergent wetlands. It is assumed that some of the plant species on site were seeded or planted as part of land reclamation, but no reclamation planting lists are available at this time.

Open field habitat was present across the majority of the site. The most abundant plant species in the open fields include Chinese lespedeza (Lespedeza cuneata), little bluestem (Schizachyrium scoparium), fescue (Schedonorus arundinaceus), Canada goldenrod (Solidago canadensis), asters (Symphyotrichum spp.), and clovers (Trifolium spp.). These species are listed as FACU on the 2020 NWPL.

Scrub/shrub habitat was scattered across many areas of the site and was most common along slopes in the southern part of the study area. Common plant species in the scrub/shrub habitat include autumn olive (*Elaeagnus umbellata*), blackberry (*Rubus allegheniensis*), multiflora rose (*Rosa multiflora*), sycamore (*Platanus occidentalis*), sumac (*Rhus* sp.), and Japanese honeysuckle (*Lonicera japonica*). These species are listed as FACU and FACW on the 2020 NWPL.

Common plant species in the emergent wetlands included narrowleaf cattail (*Typha angustifolia*), barnyard grass (*Echinochloa crus-galli*), pale smartweed (*Polygonum lapathifolium*), and bentgrass (*Agrostis hyemalis*). These species are listed as OBL, FACW, and FAC on the 2020 NWPL.

Upland woods habitat was present in a few areas on site where woody species had grown with sufficient size and density to create a closed canopy. A small amount of upland woods is located around Smokey Hollow Cemetery in the central part of the study area. This area contained red oaks (*Quercus* spp.), red maple (*Acer rubrum*), and hickories (*Carya* spp.).

3.1.3 Hydrology

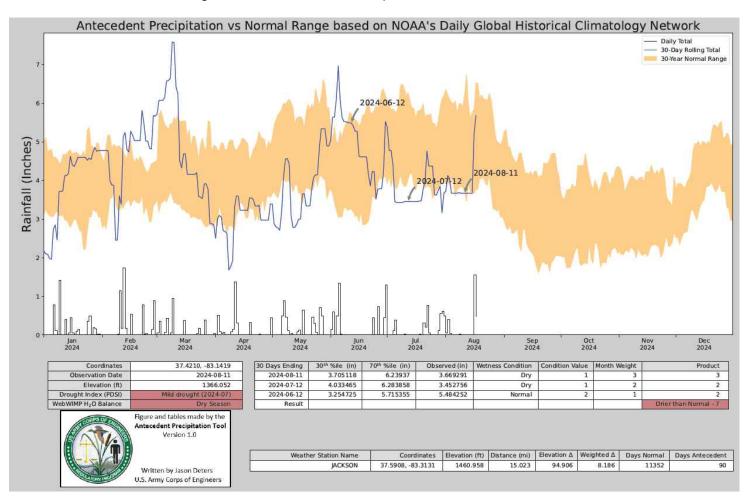
Hydrology within the study area was evaluated by observing field indicators. Sources of hydrology for the study area were largely limited to precipitation due to the elevated position of the study area compared to the surrounding landscape. The study area lies on a series of ridges which have been reshaped following mining activities, and surface water flows downslope or is collected in several drainages armored with riprap or large stones. Some water is retained in ponds which were constructed between approximately 2010 and 2023.

The study area is not overlapped by any Federal Emergency Management Agency (FEMA) floodplain zones (**Figure 4**), and the nearest mapped 100-year floodplains are along major streams such as Troublesome Creek, Balls Fork, and the lower reach of Buckhorn Creek. The National Wetlands Inventory (NWI)

map for the area (**Figure 4**) depicts only one feature: an emergent wetland mapped in the central portion of the study area. The field investigation did not find any wetland in this location, which has convex or sloped topography and does not hold water. The USGS topographic map (**Figure 1**) does not depict any ponds or streams in the study area.

Wetland hydrology indicators were observed at all of the onsite wetlands as well as some upland areas. These indicators were recorded on the data forms (**Appendix B**) and are also documented in photographs of the site (**Appendix C**). Hydrology indicators observed in the wetlands included inundation, soil saturation, saturation/inundation visible on aerial imagery, oxidized rhizospheres on living roots, drainage patterns, geomorphic position, and the FAC-neutral test.

The USACE Antecedent Precipitation Tool (Deters 2023) was reviewed for the project location at the time of the field assessments to determine if recent precipitation for the area was within normal ranges. The tool rated August 12, 2024 as "Drier Than Normal – 7" and generated a drought index rating of "mild drought." The screenshot below provides an overview of this data.



3.2 STREAM ASSESSMENT

The protocol for the field assessment involved formal stream quality assessments for any intermittent or perennial streams encountered using the Rapid Bioassessment Protocol (RBP) method (Barbour 1999 and KDOW 2011). Because the study area lies within the Eastern Kentucky Coalfield region, the stream assessment method also involved a conductivity measurement using handheld water quality meter in accordance with the Eastern Kentucky Stream Assessment Protocol (USACE, Undated).

The protocol for field documentation for onsite streams included photographs, location, typical dimensions, and substrate material. Stream lengths, channel location, limits, and flow regime would also be determined through a combination of field assessment and in-house mapping. However, no perennial, intermittent, or ephemeral streams were found during the field assessment; therefore, no stream assessment forms or water quality measurements were collected on the site. See **Appendix C** for a selection of photographs representative of site conditions as well as drainage features that did not meet criteria to be classified as streams.

4. JURISDICTIONAL WATERS SUMMARY & DESCRIPTIONS

The water/wetland delineation documented 0.92 acres of water/wetland features within the study area, including five wetlands totaling 0.24 acre and five open water ponds totaling 0.68 acre. No streams were delineated within the study area.

Based on the field assessment, two wetlands and one pond are expected to be classified as being under the jurisdiction of the USACE and Kentucky Division of Water (KDOW). The remaining features appear to be isolated from downstream waters, which would classify them as outside the jurisdiction of the USACE and KDOW. However, the USACE is the regulating authority of Section 404 of the Clean Water Act and must make the final decision with regards to the extent and jurisdictional status of any water/wetland features on this site.

All associated datasheets for this delineation can be found in **Appendix B**. Photographs of the study area and representative waters and wetlands can be found in **Appendix C**.

4.1 WETLANDS

The study area contains five wetlands that were all classified as the palustrine emergent (PEM) habitat types (Cowardin et al. 1979). The wetlands are depicted in **Figure 2** and are summarized in **Table 1**.

Name	Size	Classification	Status*
Wetland 1	0.184 acre	PEM	Jurisdictional*
Wetland 2	0.006 acre	PEM	Jurisdictional*
Wetland 3	0.016 acre	PEM	Non-Jurisdictional*
Wetland 4	0.012 acre	PEM	Non-Jurisdictional*
Wetland 5	0.022 acre	PEM	Non-Jurisdictional*
Wetland Total	0.24 acre	-	-
Jurisdictional Wetland Total*	0.19 acre	-	-

Table 1: Wetlands in the Project Area

Of these wetlands, Wetlands 1 and 2 appear to have surface connections to downstream features that would put them under the jurisdiction of the USACE. Wetland 1 exists as a wetland fringe around Pond 1 in the eastern part of the site. Based on aerial imagery, Pond 1 was artificially created sometime prior to October 2013, and in the past few years wetland conditions have developed around the edges of the pond basin. On the downslope side of Pond 1, a riprap swale runs downward into a wooded valley.

Wetland 2 is located slightly upslope of Wetland 1. During the August 12, 2024 field visit, a small amount of flowing water was observed emerging below Wetland 2. The water flow crossed a small access road and drained through a rock-armored drainage into Wetland 1 and Pond 1. The armored drainage did not have a defined bed and bank so it was not classified as a stream. However, in recent jurisdictional determinations in Kentucky, the USACE has interpreted non-jurisdictional features such as ditches as

^{*}Jurisdictional/Isolated determination is provisional and final designations will be assigned by the U.S. Army Corps of Engineers during their project review.

providing hydrological connections that render wetlands jurisdictional, even though the features themselves were not jurisdictional. Based on the relatively permanent flow of waters through Wetlands 1 and 2, it appears likely that these wetlands and Pond 1 would be interpreted as being under the jurisdiction of the USACE.

Wetlands 3, 4, and 5 are located in isolated low spots with no discernible surface connections to downstream waters, so they are considered to be isolated and not under the jurisdiction of the USACE. The wetland determinations are tentative and have been assigned pending final USACE verifications.

4.2 DRAINAGES

The site delineation found that although many drainages are present on the site that channel surface water, none of these features meet criteria for classification as a stream. Therefore, no streams were delineated on site and no formal stream quality assessments using the RBP method or water quality meters were completed within the study area.

The modifications to the topography onsite include the construction of ditches and armored swales to channel stormwater and prevent soil erosion. These features vary from narrow, shallow drainages to large, reinforced drainage channels armored with riprap and boulders. During the August 12, 2024 visit, flowing water was observed only in an armored channel below Wetland 2. KDOW's Water Quality Certification Map Viewer Tool (KDOW 2024) shows no National Hydrography Dataset (NHD) Blue Line Waters within the study area, although intermittent streams are mapped in offsite valleys downslope of Ponds 1 and 2.

4.3 OPEN WATER PONDS

The study area contains five open water ponds totaling 0.68 acre within the study area. These ponds have a habitat classification (Cowardin et al. 1979) of palustrine unconsolidated bottom (PUB). The ponds are depicted in **Figure 2** and are summarized in **Table 2**.

Name	Size	Classification	Status*
Pond 1	0.111 acre	PUB	Jurisdictional*
Pond 2	0.002 acre	PUB	Non-Jurisdictional*
Pond 3	0.245 acre	PUB	Non-Jurisdictional*
Pond 4	0.310 acre	PUB	Non-Jurisdictional*
Pond 5	0.012 acre	PUB	Non-Jurisdictional*
Pond Total	0.68 acre	-	-
Jurisdictional Pond Total*	0.68 acres	-	-

Table 2: Ponds in the Project Area

All of the ponds were artificially created as part of site reclamation activities. Based on historical aerial imagery, it appears that Ponds 1 and 2 were created sometime prior to

^{*}Jurisdictional/Isolated determination is provisional and final designations will be assigned by the U.S. Army Corps of Engineers during their project review.

October 2013, Pond 5 was created prior to June 2022, and Ponds 3 and 4 were created prior to April 2024.

The five ponds have riprap swales and/or metal pipe outlets on their downslope sides that can allow water to flow out when water levels in the ponds are elevated. However, with the exception of Pond 1, it does not appear that there is a relatively permanent flow of water flow through the pond which would provide a jurisdictional connection to downstream features. The pond determinations are tentative and have been assigned pending final USACE verifications.

5. FEDERALLY PROTECTED SPECIES AND CRITICAL HABITAT SUMMARY

The study area was reviewed to determine if federally protected species and their habitats had the potential to exist within the project area. The species to be evaluated were identified using the United States Fish & Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database. The study area boundary as shown in **Figure 1** was used as the "Action Area" that was submitted as the query input.

The initial IPaC inquiry was generated on August 20, 2024, and is included in **Appendix D**. No correspondence or consultation with the USFWS or other government resource agencies has been conducted at this time. According to the IPaC database, there are no critical habitats in the study area.

Habitat requirements for the listed species, as well as a description of onsite terrestrial and aquatic habitats, are presented in BFW's Protected Species Review report prepared for the 1,800-acre Starfire site dated February 8, 2024. Onsite habitats, and the suitability of those habitats for the listed species, for the 190-acre study area evaluated in this report are similar to those described in the Protected Species Review report and that information is incorporated into this report by reference.

Potential habitat for the listed species within the 190-acre study area includes habitat for the monarch butterfly in various habitats across the site as well as marginal foraging habitat for the gray bat around the five ponds. In addition, approximately 2.2 acres of wooded habitat around Smokey Hollow Cemetery in the central part of the study area provides potential summer habitat for the Indiana bat, northern long-eared bat, and tricolored bat.

5.1 PROTECTED SPECIES SUMMARY

The following list presents the species that were listed in the draft IPaC resource list dated August 20, 2024. The findings for these species in the study area are summarized in the following table. Note that this analysis was restricted to the study area boundary as shown in **Figure 1**.

Common Name	Scientific Name	Federal Status ¹	Suitable Habitat Present?	Species Present?			
MAMMALS							
Gray Bat	Myotis grisescens	Е	Foraging (Marginal)	Unknown			
Indiana Bat	Myotis sodalis	E	Summer	Known Summer 1 Habitat			
Northern Long-eared Bat	Myotis septentrionalis	E	Summer	Known Summer 1 Habitat			
Tricolored Bat	Perimyotis subflavus	PE	Summer	Unknown			
FISH	FISH						
Kentucky Arrow Darter	Etheostoma spilotum	Т	No	No			
INSECTS							
Monarch Butterfly	Danaus plexippus	С	Yes	Unknown			

¹Federal Status: E = Endangered, T = Threatened, PE = Proposed Endangered, C = Candidate

6. DISCUSSION

6.1 WATERS/WETLANDS

The water/wetland delineation documented 0.92 acres of water/wetland features within the study area, including five wetlands totaling 0.24 acre and five open water ponds totaling 0.68 acre. No streams were delineated within the study area (**Figure 2**). **Tables 1 and 2** present the tentative jurisdictional status of these features; however, these determinations are subject to approval by the USACE. Potential regulatory issues related to development of the site are discussed in BFW's Water/Wetland Delineation Report prepared for the Starfire Renewable Power Project dated February 1, 2024.

6.2 FEDERALLY PROTECTED SPECIES

Section 7 of the ESA requires consultation with the USFWS for projects that receive a federal permit, federal funding, or federal oversight, and Section 10 of the ESA applies to many activities that may affect listed species and their habitats, even without a federal nexus. Consultation with the USFWS would be conducted once design plans have been developed and it is determined which activities have the potential to affect protected species.

Suitable habitat is present within the study area for the monarch butterfly. Potential summer habitat is present for the Indiana bat, northern long-eared bat, and tricolored bat. Suitable foraging habitat is present for the gray bat. Potential regulatory requirements related to development of the site are discussed in BFW's Protected Species Review report prepared for the Starfire Renewable Power Project dated February 8, 2024.

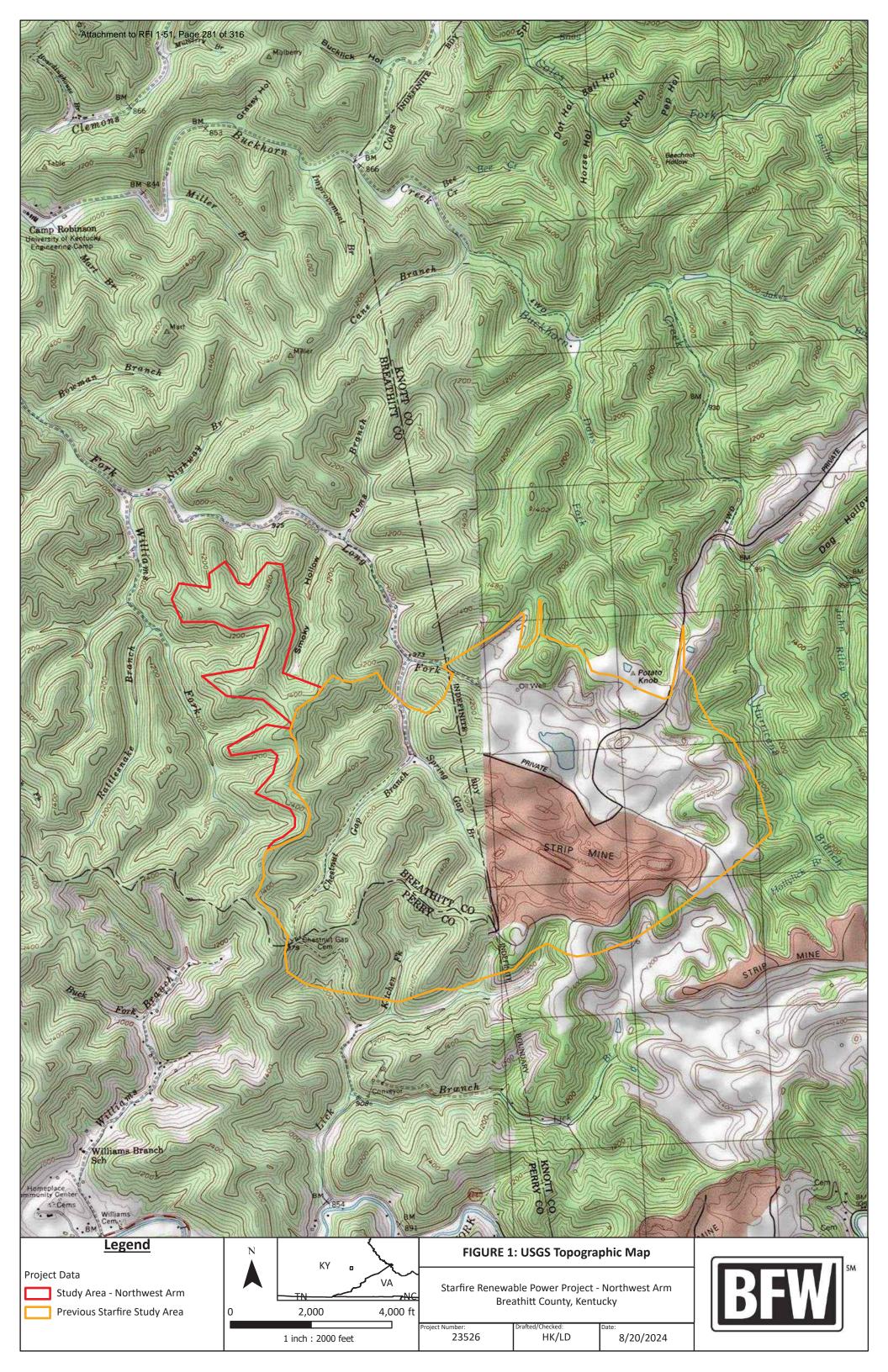
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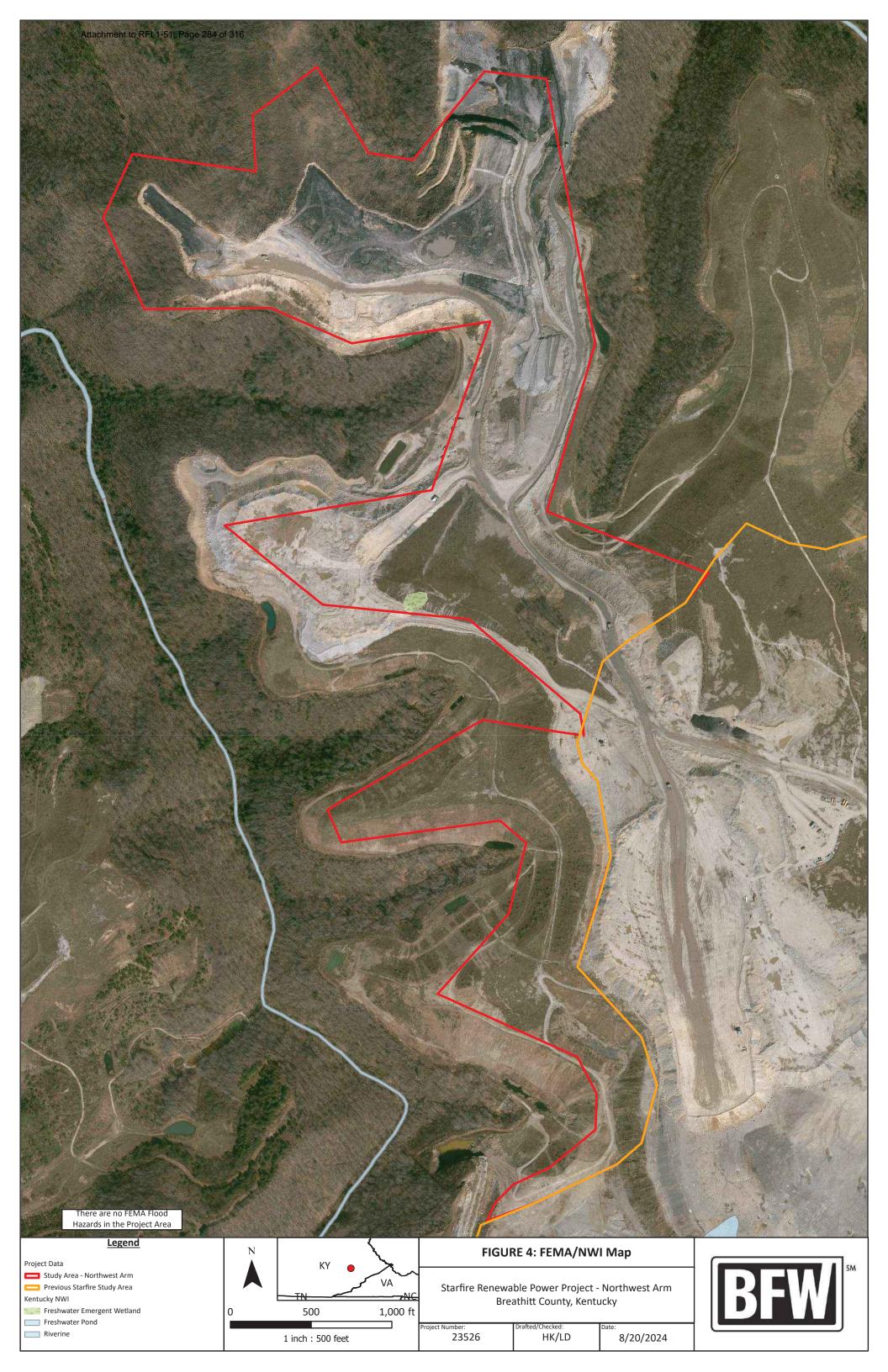
ttachment to RFI 1-51, Page 280 of 316		
	Appopality A	
	Appendix A	
	Maps	
	Ινίαρδ	

Project No.: 23526









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	Appendix B
	Wetland Determination Data Forms

Starfire Renewable Power Project

Project No.: 23526

Attachment to RFI 1-51, Page 286 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Starfire Renewable Power Project/Site:	oject	City/County: Breathitt		Sampling Date:	8/12/24	
Applicant/Owner: STMO bn, LLC			State: KY	Sampling Point:	Wetland 2	
Investigator(s): L. Darnell		Section, Township, Range:		_		
Landform (hillside, terrace, etc.): Hillside	Lo	cal relief (concave, convex,	•	Slope (%):	1-2	
Subregion (LRR or MLRA): LRR N, MLRA	•		83.1405			
Soil Map Unit Name: FbE - Fairpoint and Be			NWI classific			
		· · · · · · · · · · · · · · · · · · ·				
Are climatic / hydrologic conditions on the sit				, explain in Remarks		
Are Vegetation, Soil, or Hydro			ircumstances" present		NO	
Are Vegetation, Soil, or Hydro	<u> </u>		olain any answers in R	•		
SUMMARY OF FINDINGS – Attach	site map showing s	sampling point location	ons, transects, in	nportant featur	es, etc.	
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area				
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No		
Wetland Hydrology Present?	Yes X No			· ——		
Survey conducted during the "Dry Season."	USACE APT data shows	"Drier than Normal" conditio	ns and "Mild Drought"	for the date of asse	essment.	
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators	•	<u>equired)</u>	
Primary Indicators (minimum of one is requi		/D14)	Surface Soil Cra	` '	oo (P9)	
Surface Water (A1) X High Water Table (A2)	True Aquatic Plants Hydrogen Sulfide Od		X Drainage Patterr	ated Concave Surfac	æ (во)	
X Saturation (A3)		res on Living Roots (C3)	Moss Trim Lines			
Water Marks (B1)	Presence of Reduce	=	Dry-Season Wat			
Sediment Deposits (B2)		Reduction in Tilled Soils (C6) Crayfish Burrows (C8)				
Drift Deposits (B3)	Thin Muck Surface (
Algal Mat or Crust (B4)	Other (Explain in Re	marks)	Stunted or Stress	sed Plants (D1)		
Iron Deposits (B5)			Geomorphic Pos			
Inundation Visible on Aerial Imagery (B	7)		Shallow Aquitard			
——Water-Stained Leaves (B9) Aquatic Fauna (B13)			Microtopographic X FAC-Neutral Tes	` '		
Field Observations:				31 (D3)		
Surface Water Present? Yes	No X Depth (inch	ec).				
Water Table Present? Yes X	No Depth (inch					
Saturation Present? Yes X	No Depth (inch	·	Hydrology Present?	Yes X	No	
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos	s, previous inspections), if av	/ailable:			
Remarks:						

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

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:30)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC:1 (A)
3				Total Number of Dominant
4				Species Across All Strata: 1 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 65 x 1 = 65
Sapling/Shrub Stratum (Plot size: 15)			FACW species 5 x 2 = 10
1.				FAC species 10 x 3 = 30
2.				FACU species 0 x 4 = 0
3.				UPL species 0 x 5 = 0
4.				Column Totals: 80 (A) 105 (B)
5.				Prevalence Index = B/A = 1.31
6.	•			Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
•				X 2 - Dominance Test is >50%
9				X 3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:		of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)		or total cover.		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Typha angustifolia	60	Yes	OBL	
Agrostis hyemalis	10	No	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Scirpus atrovirens	5	No	OBL	Definitions of Four Vegetation Strata:
Polygonum lapathifolium	5	No	FACW	
5.		110	TACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
6.				height.
7				
8.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft
				(1 m) tall.
9.				Hawk All hawk access (was a success) whenter was walled
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.		-Tatal Causa		
F00/ - f4-4-1		=Total Cover	40	Woody Vine – All woody vines greater than 3.28 ft in height.
	40 20%	of total cover:	16	Tolgin.
Woody Vine Stratum (Plot size: 30)				
1.				
2.				
3.				
4				
5				Hydrophytic
	•	=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present? Yes X No No
Remarks: (Include photo numbers here or on a sep	arate sheet.)			

Sampling Point: Wetland 2

SOIL Sampling Point: Wetland 2

	ription: (Describe	to the de				ator or co	onfirm the absence	of indicators.)	
Depth (inches)	Matrix Color (moist)	0/.		k Featur		1002	Toyture	Domorko	
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks	
0-2	10YR 3/2	90	10YR 4/4	10	<u>C</u>	<u>M</u>	Sandy	Distinct redox concentrations	
2-12	2.5Y 3/2		2.5Y 2.5/1	20	<u>C</u>	M	Sandy	Faint redox concentrations	
			10YR 4/6	3	<u>C</u>	M		Prominent redox concentrations	
¹Type: C=Co	oncentration, D=Dep	letion RM	=Reduced Matrix M	 IS=Mas	ked Sand	Grains	2l ocatio	n: PL=Pore Lining, M=Matrix.	
Hydric Soil		iodon, ravi	reduced Watth, W	io ivido	nou ound	oranio.		icators for Problematic Hydric Soils ³ :	
Histosol			Polyvalue Be	low Sur	face (S8	(MLRA		2 cm Muck (A10) (MLRA 147)	
	pipedon (A2)		Thin Dark Su		-			Coast Prairie Redox (A16)	
Black Hi			Loamy Muck					(MLRA 147, 148)	
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matri	x (F2)			Piedmont Floodplain Soils (F19)	
Stratified	l Layers (A5)		Depleted Ma	trix (F3)				(MLRA 136, 147)	
2 cm Mu	ck (A10) (LRR N)		Redox Dark	Surface	(F6)			Red Parent Material (F21)	
Depleted	Below Dark Surface	e (A11)	Depleted Da	rk Surfa	ce (F7)			(outside MLRA 127, 147, 148)	
Thick Da	rk Surface (A12)		Redox Depre	essions	(F8)			Very Shallow Dark Surface (F22)	
Sandy M	lucky Mineral (S1)		Iron-Mangan	ese Ma	sses (F12	2) (LRR I	N,	Other (Explain in Remarks)	
Sandy G	leyed Matrix (S4)		MLRA 136)						
X Sandy R			Umbric Surface (F13) (MLRA 122, 136					icators of hydrophytic vegetation and	
	Matrix (S6)		Piedmont Floodplain Soils (F19) (MLR						
Dark Sui	face (S7)		Red Parent I	Material	(F21) (M	LRA 127	, 147, 148)	unless disturbed or problematic.	
Restrictive I	_ayer (if observed):								
Type:									
Depth (ir	nches):						Hydric Soil Pres	ent? Yes X No	
Remarks:									
ı									
ı									

Attachment to RFI 1-51, Page 289 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Starfire Renewable Power Pr	oject	City/County: Breathitt		Sampling Date: 8/12/	24		
Applicant/Owner: STMO bn, LLC			State: KY	Sampling Point: Wetl	and 3		
Investigator(s): L. Darnell		Section, Township, Range:					
Landform (hillside, terrace, etc.): Hillside	Lo	ocal relief (concave, convex,	•	Slope (%): 1	-2		
Subregion (LRR or MLRA): LRR N, MLRA			83.1414	 Datum:			
Soil Map Unit Name: FbE - Fairpoint and B			NWI classifica				
Are climatic / hydrologic conditions on the si				explain in Remarks.)			
, -	•						
Are Vegetation , Soil , or Hydr			Circumstances" present				
Are Vegetation, Soil, or Hydr SUMMARY OF FINDINGS – Attacl	<u> </u>		plain any answers in Re	,	oto		
SUMMART OF FINDINGS - Attact	i site map snowing s	Sampling point locati	ons, transects, in	iportant leatures,	eic.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area					
Hydric Soil Present?	Yes X No No	within a Wetland?	Yes X	No			
Wetland Hydrology Present? Remarks:	Yes X No						
HYDROLOGY							
			Socondary Indicators	/minimum of two requir	od)		
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requ	ired check all that annly)		Surface Soil Crac	(minimum of two require	<u>ea)</u>		
Surface Water (A1)	True Aquatic Plants	(B14)		ed Concave Surface (B	3)		
High Water Table (A2)	Hydrogen Sulfide O		Drainage Patterns (B10)				
Saturation (A3)	X Oxidized Rhizosphe	res on Living Roots (C3)	Moss Trim Lines (B16)				
Water Marks (B1)	Presence of Reduce	ed Iron (C4)	Dry-Season Water Table (C2)				
Sediment Deposits (B2)		on in Tilled Soils (C6)					
Drift Deposits (B3)	Thin Muck Surface (Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4) Iron Deposits (B5)	Other (Explain in Re	emarks)	X Geomorphic Posi	` '			
Inundation Visible on Aerial Imagery (E	37)		Shallow Aquitard	` '			
Water-Stained Leaves (B9)	,		Microtopographic	• •			
Aquatic Fauna (B13)			X FAC-Neutral Test				
Field Observations:							
Surface Water Present? Yes	No X Depth (inch	nes):					
Water Table Present? Yes	No X Depth (inch	·					
Saturation Present? Yes	No X Depth (inch	nes): Wetland	Hydrology Present?	Yes X No			
(includes capillary fringe)	anitaring wall parial photo	o province increations) if a	voilable				
Describe Recorded Data (stream gauge, m	onitoring well, aerial priotos	s, previous inspections), ii a	valiable.				
Remarks:							

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

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species
2.				That Are OBL, FACW, or FAC:(A)
3				Total Number of Dominant
4				Species Across All Strata: 2 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC:100.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species15 x 1 =15
Sapling/Shrub Stratum (Plot size: 15)				FACW species 18 x 2 = 36
1.				FAC species45 x 3 =135
2				FACU species 0 x 4 = 0
3				UPL species0 x 5 =0
4				Column Totals: 78 (A) 186 (B)
5				Prevalence Index = B/A = 2.38
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				X 2 - Dominance Test is >50%
9				X 3 - Prevalence Index is ≤3.0 ¹
		=Total Cover		4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
50% of total cover:	20%	of total cover:		
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Agrostis hyemalis	25	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must be
2. Echinochloa crus-galli	20	Yes	FAC	present, unless disturbed or problematic.
3. Typha angustifolia	15	No No	OBL	Definitions of Four Vegetation Strata:
4. Polygonum lapathifolium	15	No No	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
5. Cyperus strigosus	3	No	FACW	height.
6.				
7.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft
8				(1 m) tall.
				Light All banks are considered to the constant of the constant
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.	70	Total Cover		
FOO/ of total covers 20			16	Woody Vine – All woody vines greater than 3.28 ft in height.
50% of total cover: 39 <u>Woody Vine Stratum</u> (Plot size: 30)	20%	of total cover:	16	3
· · · · · · · · · · · · · · · · · · ·				
1				
3.				
1				
5.				
J	 .	Total Cover		Hydrophytic
50% of total cover:		of total cover:		Vegetation Present? Yes X No
		or total cover.		Present? Yes X No
Remarks: (Include photo numbers here or on a separate	rate sheet.)			

Sampling Point:

Wetland 3

SOIL Sampling Point: Wetland 3

Profile Desc	ription: (Describe	to the dep				tor or co	onfirm the absence	e of indic	cators.)	
Depth	Matrix		Redox	(Featur						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-8	2.5Y 4/1	90	10YR 3/6	7	С	PL/M	Loamy/Clayey	Pro	ominent redox con	centrations
							<u> </u>			
								_		
			_							
								-		
								_		
1			De due e d'Aletine A				21 1:		Name I in its at 184 184 1	4t
	ncentration, D=Dep	letion, RM	Reduced Matrix, IV	S=Mas	ked Sand	Grains.			ore Lining, M=Ma	
Hydric Soil I			Dobarduo Po	low Su	rface (S0	/MI DA			or Problematic H	-
Histosol	` '		Polyvalue Be Thin Dark Su					_	uck (A10) (MLRA rairie Redox (A16	*
Black His	ipedon (A2)		Loamy Muck					_	A 147, 148))
	n Sulfide (A4)		Loamy Gleye			ILIXA ISC	·)		nt Floodplain Soils	: (F19)
	Layers (A5)		X Depleted Ma		. ,			_	A 136, 147)	, (1 10)
	ck (A10) (LRR N)		Redox Dark	, ,					rent Material (F21)	1
	Below Dark Surface	e (A11)	Depleted Dai					_	ide MLRA 127, 14	
Thick Da	rk Surface (A12)	, ,	Redox Depre	ssions	(F8)				allow Dark Surfac	-
Sandy M	ucky Mineral (S1)		Iron-Mangan	ese Ma	sses (F12	2) (LRR N	I,	Other (E	Explain in Remark	s)
Sandy G	leyed Matrix (S4)		MLRA 136)				_		
Sandy R	edox (S5)		Umbric Surfa	ce (F13	3) (MLRA	122, 136	3 Inc	dicators o	of hydrophytic vege	etation and
Stripped	Matrix (S6)		Piedmont Flo	odplain	Soils (F	19) (MLR	A 148)	wetland	hydrology must b	e present,
Dark Sur	face (S7)		Red Parent N	/laterial	(F21) (M	LRA 127	, 147, 148)	unless d	disturbed or proble	matic.
Restrictive L	.ayer (if observed):									
Type:	Rock/g									
Depth (in	ches):	8					Hydric Soil Pres	sent?	Yes X	No
Remarks:										

Attachment to RFI 1-51, Page 292 of 316

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Starfire Renewable Power Project/Site:	pject	City/County: Breathitt		Sampling Date:	8/12/24		
Applicant/Owner: STMO bn, LLC			State: KY	Sampling Point:	Wetland 4		
Investigator(s): L. Darnell		Section, Township, Range:					
Landform (hillside, terrace, etc.): Terrace	Lo	cal relief (concave, convex,	-	Slope (%):	0		
Subregion (LRR or MLRA): LRR N, MLRA 1		•	83.1474	Datum:			
Soil Map Unit Name: uHfsF - Handshoe-Fed							
	•						
Are climatic / hydrologic conditions on the sit				explain in Remarks	•		
Are Vegetation, Soil, or Hydro			ircumstances" present	? Yes X	No		
Are Vegetation, Soil, or Hydro	ologynaturally probl	ematic? (If needed, exp	olain any answers in Re	∍marks.)			
SUMMARY OF FINDINGS – Attach	site map showing s	sampling point location	ons, transects, im	ıportant featuı	res, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area					
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No			
Wetland Hydrology Present?	Yes X No						
Remarks: Survey conducted during the "Dry Season."	USACE APT data shows	"Drier than Normal" conditio	ns and "Mild Drought"	for the date of asso	essment.		
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators	•	equired)		
Primary Indicators (minimum of one is requi		(0.4.4)	X Surface Soil Crac	` ,	(50)		
Surface Water (A1)	True Aquatic Plants		X Sparsely Vegetat		ce (B8)		
High Water Table (A2)	Hydrogen Sulfide Oc	res on Living Roots (C3)	Drainage Patterns (B10)				
Saturation (A3) Water Marks (B1)	Presence of Reduce	=					
Sediment Deposits (B2)		on in Tilled Soils (C6)	Dry-Season Water Table (C2) ils (C6) Crayfish Burrows (C8)				
Drift Deposits (B3)	Thin Muck Surface (on Aerial Imagery	/ (C9)		
X Algal Mat or Crust (B4)	Other (Explain in Re	•	Stunted or Stress		()		
Iron Deposits (B5)		,	Geomorphic Posi				
X Inundation Visible on Aerial Imagery (B	7)		Shallow Aquitard	(D3)			
Water-Stained Leaves (B9)			Microtopographic	Relief (D4)			
Aquatic Fauna (B13)			X FAC-Neutral Test	t (D5)			
Field Observations:							
Surface Water Present? Yes X	No Depth (inch						
Water Table Present? Yes	No X Depth (inch						
Saturation Present? Yes	No X Depth (inch	es): Wetland I	Hydrology Present?	Yes X	No		
(includes capillary fringe)			9-61-				
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos	s, previous inspections), if av	/allable:				
Remarks:							

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

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC: 2 (A)
3.				Total Number of Dominant
4				Species Across All Strata: 2 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
<i>1.</i>		Tatal Causan		Prevalence Index worksheet:
50% of total cover:		Total Cover of total cover:		Total % Cover of: Multiply by: OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 15)	20%	oi total cover.		FACW species 2 x 2 = 4
1				FAC species 1 x 3 = 3
2.				FACU species 0 x 4 = 0
3.				UPL species 0 x 5 = 0
4				Column Totals: 3 (A) 7 (B)
5.				Prevalence Index = B/A = 2.33
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
8.				X 2 - Dominance Test is >50%
9				X 3 - Prevalence Index is ≤3.0 ¹
·	 :	Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:		of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Polygonum lapathifolium	2	Yes	FACW	¹Indicators of hydric soil and wetland hydrology must be
2. Agrostis hyemalis	1	Yes	FAC	present, unless disturbed or problematic.
3.				Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than or equal to 3.28 ft
9				(1 m) tall.
J.				
10.				Herb – All herbaceous (non-woody) plants, regardless
				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
10.	3 =	=Total Cover		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
10.		=Total Cover of total cover:		of size, and woody plants less than 3.28 ft tall.
10 11			1	of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
10			1	of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
10			1	of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
10			1	of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
10			1	of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
10	20%	of total cover:	1	of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
10	20%	of total cover:		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
10	20%	of total cover:		of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic
10	20%	of total cover:		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
10	20%	of total cover:		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
10	20%	of total cover:		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
10	20%	of total cover:		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
10	20%	of total cover:		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
10	20%	of total cover:		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

Sampling Point:

Wetland 4

SOIL Sampling Point: Wetland 4

	cription: (Describe Matrix	to the de				ator or c	onfirm the absen	ce of indica	ators.)	
Depth (inches)	Color (moist)	%	Color (moist)	Featur	Type ¹	Loc ²	Texture		Remarks	
0-3	2.5Y 4/1	67	10Y 2.5/1	30	C	M	Loamy/Clayey	Pror	minent redox conc	entrations
			10YR 5/4	3	С	М		Pror	minent redox conc	entrations
	-							_		
								_		
	-									_
¹Type: C=C	Concentration, D=Dep	letion. RM	 I=Reduced Matrix. M	IS=Mas	ked San	Grains.	²Loca	tion: PL=Po	ore Lining, M=Matr	ix.
	Indicators:	,	,						or Problematic Hy	
Histoso	I (A1)		Polyvalue Be	low Su	rface (S8) (MLRA	147, 148)	2 cm Mu	ck (A10) (MLRA 1	47)
Histic E	pipedon (A2)		Thin Dark Su	ırface (89) (MLR	A 147, 1	48)	Coast Pr	airie Redox (A16)	
Black H	listic (A3)		Loamy Muck	y Miner	al (F1) (N	ILRA 13	6)	(MLRA	147, 148)	
	en Sulfide (A4)		Loamy Gleye					_	t Floodplain Soils	(F19)
	d Layers (A5)		X Depleted Ma						136, 147)	
	uck (A10) (LRR N)		Redox Dark						ent Material (F21)	
	d Below Dark Surface	e (A11)	Depleted Da		, ,				de MLRA 127, 147	
	ark Surface (A12)		Redox Depre			a) <i>(</i> 	. –		allow Dark Surface	,
	Mucky Mineral (S1)		Iron-Mangan		sses (F1	2) (LRR I	N,	Other (Ex	xplain in Remarks)	
	Gleyed Matrix (S4)		MLRA 136	•) /B/I D A	400 40	a) 3 ₁			-4:
	Redox (S5)		Umbric Surfa		-				hydrophytic veget	
	d Matrix (S6) urface (S7)		Piedmont Flo		-				nydrology must be sturbed or problen	
			Ned Falenti	nateriai	(1 Z 1) (1VI	LNA 121	, 147, 140)	uriless ur	sturbed or problem	iauc.
Type:	Layer (if observed): Rock/g									
	inches):	3					Hydric Soil Pr	esent?	Yes X N	0
Remarks:							1,			<u> </u>
Nemarks.										

tachment to RFI 1-51, Page 295 of 316		
	Appendix C	
	Photographs	

Project No.: 23526



rnotograph 1. Typical view of open field habitat on slopes running down toward offsite forest, facing south in the northern part of the study area. August 12, 2024.



Photograph 2: View or open field and scrub-scrub nabitat in the southern part of the study area, facing north toward trees around Smokey Hollow Cemetery. August 12, 2024.





Priotograph 3: view of wetiand 1 and Pond 1 along the eastern edge of the site, racing southeast from an access road upslope of the features. August 12, 2024.



Photograph 4: Some water was observed flowing across the access road from Wetland 2 into Wetland 1, but this area does not have a defined bed and bank and was not classified as a stream. August 12, 2024.





Photograph 5: View of Wetland 2, which is located below an armored drainage and above an access road upslope of Wetland 1. August 12, 2024.



Photograph 6: View of Wetland 3, located in a low spot along an access road upslope of Wetland 1. August 12, 2024.





Photograph 7: View of Wetland 4, located in a low spot in the northern part of the study area. August 12, 2024.



Photograph 8 View of Wetland 5, located in a low spot along an access road in the northwest part of the study area. August 12, 2024.





Protograph 9. view of Pond 2, which is located mostly offsite out has a small overlap in the northern part of the study area. August 12, 2024.



Photograph 10: View of Pond 3 along the northern edge of the study area. September 18, 2023.





Photograph 11: View of Pond 4, located east of Pond 3 along the northern eage of the study area. August 12, 2024.



Photograph 12: View of Pond 5, which is located mostly offsite but has a small overlap in the northwestern part of the study area. August 12, 2024.



age 302 of 316	
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Appendix D	
USFWS Documentation	
OSFWS Documentation	

Project No.: 23526

Attachment to RFI 1-51, Page 303 of 316

IPaC

U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Breathitt County, Kentucky



Local office

Kentucky Ecological Services Field Office

\((502) 695-0467

(502) 695-1024

kentuckyes@fws.gov

OT FOR CONSULTATION

IPaC: Explore Location resources

Attachment to RFI 1-51, Page 304 of 316 J C Watts Federal Building, Room 265 330 West Broadway Frankfort, KY 40601-8670 Attachment to RFI 1-51, Page 305 of 316

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Draw the project location and click CONTINUE.
- 2. Click DEFINE PROJECT.
- 3. Log in (if directed to do so).
- 4. Provide a name and description for your project.
- 5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the <u>Ecological Services Program</u> of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact <u>NOAA Fisheries</u> for <u>species under their jurisdiction</u>.

- 1. Species listed under the <u>Endangered Species Act</u> are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the <u>listing status</u> <u>page</u> for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
- 2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office

Attachment to RFI 1-51, Page 306 of 316

of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME **STATUS**

Gray Bat Myotis grisescens

Endangered

Wherever found

This species only needs to be considered if the following condition applies:

The project area includes potential gray bat habitat.

No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6329

Indiana Bat Myotis sodalis

Endangered

Wherever found

This species only needs to be considered if the following condition applies:

• The project area includes known 'summer 1 (outer-tier)' habitat.

There is final critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/5949

Northern Long-eared Bat Myotis septentrionalis

Endangered

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/9045

Tricolored Bat Perimyotis subflavus

Proposed Endangered

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/10515

Fishes

NAME **STATUS**

Attachment to RFI 1-51, Page 307 of 316

Kentucky Arrow Darter Etheostoma spilotum

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/9063

Insects

NAME STATUS

Monarch Butterfly Danaus plexippus

Candidate

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/9743

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/

Attachment to RFI 1-51, Page 308 of 316

<u>media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action</u>

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply). To see a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator (RAIL) Tool</u>.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey, banding, and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator (RAIL) Tool</u>.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the <u>Eagle Act</u> should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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Attachment to RFI 1-51, Page 309 of 316

- 1. The Migratory Birds Treaty Act of 1918.
- 2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	RKEEDING SEASON	
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25	
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20	

Attachment to RFI 1-51, Page 310 of 316

Henslow's Sparrow Centronyx henslowii

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

https://ecos.fws.gov/ecp/species/3941

Breeds May 1 to Aug 31

Kentucky Warbler Geothlypis formosa

This is a Bird of Conservation Concern (BCC) throughout its

range in the continental USA and Alaska.

Breeds Apr 20 to Aug 20

Prairie Warbler Setophaga discolor

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Aug 31

Breeds May 1 to Jul 31

Wood Thrush Hylocichla mustelina

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of

Attachment to RFI 1-51, Page 311 of 316

presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (=)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (1)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

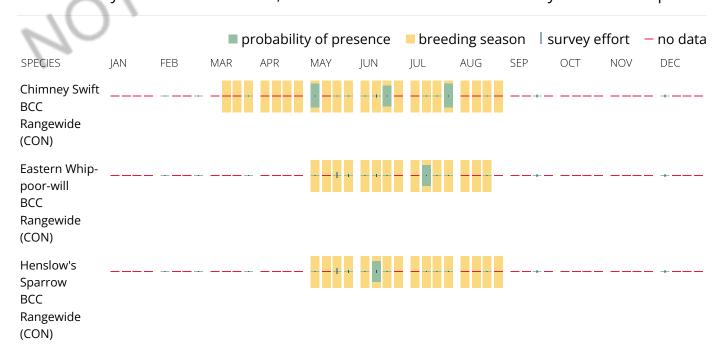
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

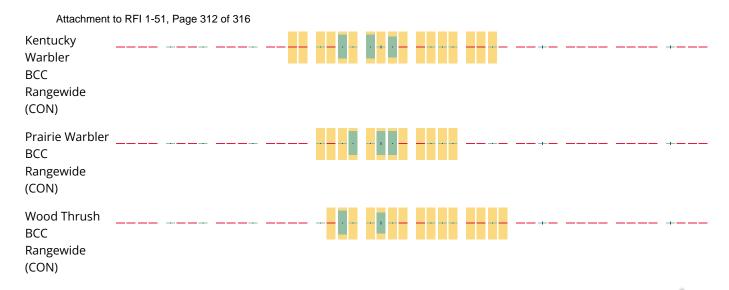
No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey, banding, and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator (RAIL) Tool</u>.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey, banding, and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes

Attachment to RFI 1-51, Page 313 of 316

available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating

Attachment to RFI 1-51, Page 314 of 316 the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Attachment to RFI 1-51, Page 315 of 316

Wetlands in the National Wetlands Inventory (NWI)

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of Engineers District</u>.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the <u>NWI map</u> to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design

Attachment to RFI 1-51, Page 316 of 316

or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION