

Chad Martin

From: Baldrige, David E CIV USARMY CELRL (USA) <David.E.Baldrige@usace.army.mil>
Sent: Monday, November 7, 2022 12:44 PM
To: Kelsey Cleve
Cc: Chad Martin; Atherton, Sarah E CIV USARMY CELRL (USA)
Subject: RE: Hummingbird PJD

Kelsey,

I assigned this request to Sarah Atherton and I copied her on this email.

Thanks.

David Baldrige
Chief, South Branch
Regulatory Division
Louisville District
U.S. Army Corps of Engineers
502-315-6675 Office
502-216-9117 Cell

From: Kelsey Cleve <kelsey.a.anderson@cardno.com>
Sent: Friday, November 4, 2022 10:23 AM
To: CELRL.Door.To.The.Corps <CELRL.Door.To.The.Corps@usace.army.mil>
Cc: Chad Martin <chad.martin@cardno.com>
Subject: [URL Verdict: Neutral][Non-DoD Source] Hummingbird PJD

Hello,

Please find the attached PJD application for the proposed Hummingbird project under Recurrent Energy Operations, LLC. This application covers a 3,447-acre site northeast of Flemingsburg and near the North Fork Licking River in Fleming County, Kentucky (center coordinates 38.463448, -83.647487).

Appendices for the wetland delineation report are not included in this submission due to file size; please let me know where and how to upload these documents to the reviewer.

If you have any questions please do not hesitate to reach out to me directly.

Kelsey Cleve

BIOLOGIST I



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CONNECT WITH CARDNO    



now



May 25, 2023

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US Army Corps of Engineers, Louisville District
Regulatory Division, South Branch
P.O. Box 28
Louisville, KY 40201-0059

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76 San Marcos Street
Austin, TX 78734

Phone 512 745 8129
Toll-free 800 368 7511

www.cardno.com

Subject: PJD Request, Hummingbird Solar

To whom it may concern,

This letter is to request a Preliminary Jurisdictional Determination (PJD) for Recurrent Energy, LLC. A delineation of the wetlands and waterbodies of the site was completed in December 2021 and May 2023, and the results of this delineation report are included in this request. 63 wetlands and 104 streams were identified in the 4,137-acre Project Area northeast of Flemingsburg in Fleming County, Kentucky. No construction on this project has been completed to date.

We appreciate your time in this matter.

Sincerely,

Chad Martin
Senior Principal/Technical Director
For Cardno
Direct Line: 512-745-8129
Email: Chad.martin@cardno.com

Enc: PJD Application, Wetland Delineation Report

ATTACHMENT

A

PJD APPLICATION

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD:

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: _____ County/parish/borough: _____ City: _____

Center coordinates of site (lat/long in degree decimal format):

Lat.: xx.xxx° Long.: yy.yyy°

Universal Transverse Mercator:

Name of nearest waterbody:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: _____

Field Determination. Date(s): _____

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)

(Continued on next page)

Site Number	Latitude	Longitude	Estimated amount of aquatic resource in review area	Type of aquatic resource	Geographic authority to which the aquatic resource "may be subject"
Wet-07	38.4387	-83.6775	1.09ac	PUB pond	Section 404
Wet-08	38.44094	-83.6773	0.19ac	PUB pond	Section 404
Wet-09	38.44026	-83.6724	0.49ac	PUB pond	Section 404
Wet-10	38.44599	-83.6736	0.22ac	PEM wetland	Section 404
Wet-11	38.44557	-83.6733	0.11ac	PUB pond	Section 404
Wet-12	38.44772	-83.6676	0.58ac	PUB pond	Section 404
Wet-13	38.44849	-83.6651	0.16ac	PEM wetland	Section 404
Wet-14	38.45244	-83.668	0.34ac	PUB pond	Section 404
Wet-15	38.4503	-83.6657	0.57ac	PUB pond	Section 404
Wet-16	38.45338	-83.671	0.15ac	PEM wetland	Section 404
Wet-17	38.45487	-83.6696	0.36ac	PEM wetland	Section 404
Wet-18	38.45737	-83.6694	0.18ac	PUB pond	Section 404
Wet-19	38.45673	-83.6656	0.06ac	PUB pond	Section 404
Wet-20	38.45694	-83.6588	0.21ac	PUB pond	Section 404
Wet-21	38.46667	-83.6678	0.23ac	PUB pond	Section 404
Wet-22	38.46649	-83.6624	1.54ac	PUB pond	Section 404
Wet-23	38.46521	-83.6613	0.04ac	PUB pond	Section 404
Wet-24	38.46467	-83.6632	0.2ac	PUB pond	Section 404
Wet-25	38.46331	-83.6617	1.39ac	PEM wetland	Section 404
Wet-26	38.46238	-83.664	1.2ac	PEM wetland	Section 404
Wet-27	38.46392	-83.6689	0.32ac	PEM wetland	Section 404
Wet-28	38.46219	-83.6397	0.3ac	PUB pond	Section 404
Wet-29	38.46176	-83.6378	0.69ac	PEM wetland	Section 404
Wet-30	38.47105	-83.6431	0.13ac	PEM wetland	Section 404
Wet-31	38.46958	-83.6393	0.49ac	PEM wetland	Section 404
Wet-32	38.47213	-83.6399	0.09ac	PFO wetland	Section 404
Wet-33	38.47093	-83.6397	0.17ac	PUB pond	Section 404
Wet-34	38.47883	-83.6463	0.19ac	PUB pond	Section 404
Wet-35	38.48303	-83.6503	0.02ac	PEM wetland	Section 404
Wet-36	38.48304	-83.6473	0.08ac	PEM wetland	Section 404
Wet-37	38.48589	-83.6531	0.13ac	PUB pond	Section 404
Wet-38	38.48624	-83.6639	0.18ac	PUB pond	Section 404
Wet-39	38.48415	-83.6681	0.04ac	PEM wetland	Section 404
Wet-40	38.4843	-83.6677	0.48ac	PUB pond	Section 404
Wet-41	38.48435	-83.6707	0.06ac	PEM wetland	Section 404
Wet-42	38.48596	-83.6709	0.16ac	PUB pond	Section 404
Wet-43	38.48575	-83.6711	0.1ac	PEM wetland	Section 404
Wet-44	38.45604	-83.6171	0.42ac	PUB pond	Section 404
Wet-45	38.45883	-83.6228	0.07ac	PUB pond	Section 404
Wet-46	38.45534	-83.6234	0.61ac	PUB pond	Section 404
Wet-47	38.45518	-83.6234	1.98ac	PEM wetland	Section 404
Wet-48	38.468	-83.6121	1.54ac	PUB pond	Section 404
Wet-49	38.47496	-83.62	0.27ac	PEM wetland	Section 404
Wet-50	38.47629	-83.6188	0.06ac	PEM wetland	Section 404

Wet-51	38.47651	-83.619	0.26ac	PUB pond	Section 404
Wet-52	38.477	-83.6204	0.16ac	PFO wetland	Section 404
Wet-53	38.48047	-83.6275	0.99ac	PUB pond	Section 404
Wet-54	38.48334	-83.6156	0.11ac	PUB pond	Section 404
Wet-55	38.48221	-83.6176	0.35ac	PUB pond	Section 404
Wet-56	38.48865	-83.6123	0.3ac	PUB pond	Section 404
Wet-57	38.48848	-83.6081	0.06ac	PUB pond	Section 404
Wet-58	38.49203	-83.6073	0.14ac	PUB pond	Section 404
Wet-59	38.49614	-83.6051	0.13ac	PUB pond	Section 404
Wet-60	38.49915	-83.6039	0.24ac	PEM wetland	Section 404
Wet-61	38.42708	-83.6618	0.2ac	PUB pond	Section 404
Wet-62	38.43037	-83.6447	6.62ac	PUB pond	Section 404
S-A-01	38.44979	-83.668967	1526.48ft	Intermittent Stream	Section 404
S-A-02	38.460247	-83.670461	423.48ft	Ephemeral Stream	Section 404
S-A-03	38.423295	-83.660539	1012.03ft	Ephemeral Stream	Section 404
S-A-04	38.448695	-83.667431	552.17ft	Ephemeral Stream	Section 404
S-A-05	38.448049	-83.674314	2129.2ft	Intermittent Stream	Section 404
S-A-06	38.466439	-83.660667	705.07ft	Intermittent Stream	Section 404
S-A-07	38.466639	-83.6596	3154.5ft	Perennial Stream	Section 404
S-A-08	38.467477	-83.669048	721.51ft	Intermittent Stream	Section 404
S-A-09	38.465791	-83.669078	1626.19ft	Intermittent Stream	Section 404
S-A-10	38.466069	-83.668337	464.78ft	Ephemeral Stream	Section 404
S-A-11	38.458202	-83.66588	578.55ft	Intermittent Stream	Section 404
S-A-12	38.458091	-83.661759	1846.96ft	Intermittent Stream	Section 404
S-A-13	38.457892	-83.659753	1130.24ft	Intermittent Stream	Section 404
S-A-14	38.460181	-83.662348	6279.91ft	Perennial Stream	Section 404
S-A-15	38.459937	-83.654883	2706.97ft	Perennial Stream	Section 404
S-A-16	38.423672	-83.662602	908.98ft	Ephemeral Stream	Section 404
S-A-17	38.458564	-83.653167	319.3ft	Intermittent Stream	Section 404
S-A-18	38.456501	-83.636086	1544.86ft	Ephemeral Stream	Section 404
S-A-19	38.457306	-83.642615	631.46ft	Ephemeral Stream	Section 404
S-A-20	38.46178	-83.636702	966.59ft	Ephemeral Stream	Section 404
S-A-21	38.459185	-83.655166	552.11ft	Ephemeral Stream	Section 404
S-A-22	38.464354	-83.639101	596.08ft	Ephemeral Stream	Section 404
S-A-23	38.459079	-83.625416	1181.53ft	Ephemeral Stream	Section 404
S-A-24	38.454488	-83.623679	1894.55ft	Ephemeral Stream	Section 404
S-A-25	38.461145	-83.619454	5028.69ft	Intermittent Stream	Section 404
S-A-26	38.462197	-83.617476	1487.91ft	Ephemeral Stream	Section 404
S-A-27	38.464984	-83.619147	2317.41ft	Ephemeral Stream	Section 404
S-A-28	38.469333	-83.617092	4106.7ft	Intermittent Stream	Section 404
S-A-29	38.476658	-83.640632	3457.83ft	Intermittent Stream	Section 404
S-A-30a	38.48099	-83.646403	458.97ft	Intermittent Stream	Section 404
S-A-30b	38.479459	-83.646289	475.25ft	Ephemeral Stream	Section 404
S-A-31	38.475895	-83.640111	848.3ft	Ephemeral Stream	Section 404
S-A-32	38.474111	-83.643721	487.25ft	Ephemeral Stream	Section 404
S-A-33	38.470602	-83.617658	1320.93ft	Ephemeral Stream	Section 404
S-A-34	38.472359	-83.617453	2708.26ft	Intermittent Stream	Section 404

S-A-36	S-A-35	38.48031	-83.62774	1700.95ft	Intermittent Stream	Section 404
	Trotter Creek	38.479768	-83.625415	2313.7ft	Perennial Stream	Section 404
	S-A-37	38.479615	-83.624307	610.68ft	Ephemeral Stream	Section 404
	S-A-38	38.477985	-83.624697	1081.83ft	Ephemeral Stream	Section 404
	S-A-39	38.47788	-83.628028	765.17ft	Ephemeral Stream	Section 404
	S-B-01	38.430022	-83.647414	450.82ft	Ephemeral Stream	Section 404
	S-B-02	38.462517	-83.639334	377.98ft	Ephemeral Stream	Section 404
	S-B-03	38.427473	-83.648585	3163.4ft	Intermittent Stream	Section 404
	S-B-04	38.42888	-83.652071	846.83ft	Ephemeral Stream	Section 404
	S-B-05	38.424867	-83.651076	2031.61ft	Ephemeral Stream	Section 404
	S-B-06	38.424108	-83.664262	4874.45ft	Perennial Stream	Section 404
	S-B-07	38.425673	-83.664531	957.84ft	Ephemeral Stream	Section 404
	S-B-08	38.42837	-83.658089	989.81ft	Ephemeral Stream	Section 404
	S-B-09	38.422143	-83.66415	1485.51ft	Ephemeral Stream	Section 404
	S-B-10	38.421274	-83.665034	133.11ft	Ephemeral Stream	Section 404
	S-B-11	38.421209	-83.663993	402.4ft	Ephemeral Stream	Section 404
	S-B-12	38.430675	-83.672725	2350.45ft	Ephemeral Stream	Section 404
	S-B-13	38.436918	-83.672642	860.77ft	Ephemeral Stream	Section 404
	S-B-14	38.438645	-83.676395	2054.78ft	Ephemeral Stream	Section 404
	S-B-15	38.436594	-83.680827	389.29ft	Ephemeral Stream	Section 404
	S-B-16	38.437638	-83.678704	748.78ft	Ephemeral Stream	Section 404
	S-B-17	38.495272	-83.604389	2347.28ft	Intermittent Stream	Section 404
	S-B-18	38.494478	-83.604903	759.55ft	Ephemeral Stream	Section 404
	S-B-19	38.494592	-83.602998	463.4ft	Ephemeral Stream	Section 404
	S-B-20	38.499819	-83.60423	378.23ft	Intermittent Stream	Section 404
S-B-21	38.489922	-83.608213	474.52ft	Ephemeral Stream	Section 404	
S-B-22	38.48807	-83.607782	1685.86ft	Ephemeral Stream	Section 404	
S-B-23	38.451156	-83.669045	1117.22ft	Ephemeral Stream	Section 404	
S-B-24	38.490364	-83.614697	814.15ft	Ephemeral Stream	Section 404	
S-B-25	38.428738	-83.668942	1297.33ft	Perennial Stream	Section 404	
S-B-26	38.492634	-83.616341	305.47ft	Ephemeral Stream	Section 404	
S-B-27	38.493823	-83.616807	603.94ft	Ephemeral Stream	Section 404	
S-B-28	Trotter Creek	38.497012	-83.615958	379.21ft	Perennial Stream	Section 404
	S-B-29	38.496106	-83.617643	1246.44ft	Intermittent Stream	Section 404
	S-B-30	38.481383	-83.620526	1534.27ft	Intermittent Stream	Section 404
	S-B-31	38.48254	-83.620763	283.06ft	Ephemeral Stream	Section 404
	S-B-32	38.479548	-83.619298	1905.29ft	Intermittent Stream	Section 404
	S-B-33	38.483506	-83.613365	1039.77ft	Ephemeral Stream	Section 404
	S-B-34	38.485871	-83.614	667ft	Ephemeral Stream	Section 404
	S-B-35	38.477662	-83.619745	1202.39ft	Ephemeral Stream	Section 404
	S-B-37	38.472604	-83.621583	528.14ft	Ephemeral Stream	Section 404
	S-B-38	38.475061	-83.621225	453.08ft	Ephemeral Stream	Section 404
S-C-01	Farrows Creek	38.49588	-83.667394	3904.51ft	Perennial Stream	Section 404
	S-C-02	38.495961	-83.668759	584.8ft	Intermittent Stream	Section 404
	S-C-03	38.495567	-83.666811	411.16ft	Ephemeral Stream	Section 404
	S-C-04	38.495284	-83.666298	146.27ft	Ephemeral Stream	Section 404
	S-C-05	38.496903	-83.662906	1177.07ft	Intermittent Stream	Section 404

S-C-06	38.497751	-83.666594	632.71ft	Intermittent Stream	Section 404
S-C-07	38.497937	-83.666779	84.66ft	Ephemeral Stream	Section 404
S-C-08	38.484732	-83.653163	782.12ft	Intermittent Stream	Section 404
S-C-09	38.485125	-83.651403	2968.96ft	Intermittent Stream	Section 404
S-C-10	38.486214	-83.655619	117.12ft	Ephemeral Stream	Section 404
S-C-11	38.486178	-83.654015	236.31ft	Ephemeral Stream	Section 404
S-C-12	38.483132	-83.648616	1154.58ft	Intermittent Stream	Section 404
S-C-13	38.485496	-83.670375	844.33ft	Ephemeral Stream	Section 404
S-C-14	38.487085	-83.669467	2039.74ft	Ephemeral Stream	Section 404
S-C-15	38.488975	-83.670159	757.31ft	Intermittent Stream	Section 404
S-C-16	38.487627	-83.667428	1395.42ft	Perennial Stream	Section 404
S-C-18	38.485069	-83.666509	695.55ft	Ephemeral Stream	Section 404
S-C-19	38.485893	-83.664621	993.25ft	Ephemeral Stream	Section 404
S-C-20	38.48442	-83.665058	1301.21ft	Ephemeral Stream	Section 404
S-C-21	38.483806	-83.664953	185.6ft	Ephemeral Stream	Section 404
S-C-22	38.4852	-83.663759	691.73ft	Ephemeral Stream	Section 404
S-C-24	38.467828	-83.648486	1003.42ft	Intermittent Stream	Section 404
S-C-25	38.467559	-83.645588	999.41ft	Intermittent Stream	Section 404

WET-63	38.474932	-83.644801	0.23 ac	PUB pond	Section 404
S-D-1	38.468086	-83.622053	1257.28 ft	Intermittent Stream	Section 404
S-D-2	38.468613	-83.621852	96.41 ft	Ephemeral stream	Section 404
S-D-3	38.472557	-83.618754	1306.96 ft	Ephemeral stream	Section 404
S-D-4	38.476685	-83.638002	1395.65 ft	Ephemeral stream	Section 404

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:


SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: _____.
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report. Rationale: _____.
- Data sheets prepared by the Corps: _____.
- Corps navigable waters' study: _____.
- U.S. Geological Survey Hydrologic Atlas: _____.
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: _____.
- Natural Resources Conservation Service Soil Survey. Citation: _____.
- National wetlands inventory map(s). Cite name: _____.
- State/local wetland inventory map(s): _____.
- FEMA/FIRM maps: _____.
- 100-year Floodplain Elevation is: _____. (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): _____.
or Other (Name & Date): _____.
- Previous determination(s). File no. and date of response letter: _____.
- Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and date of
Regulatory staff member
completing PJD

 11/04/2022

Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

ATTACHMENT

B

WETLAND DELINEATION REPORT

Environmental Resource Assessment

Hummingbird Solar
Recurrent Energy

Fleming County, Kentucky



now



Document Information

Prepared for Recurrent Energy
Project Name Hummingbird Solar
Project Number E320201702
Project Manager Chad Martin
Date May 23, 2023

Prepared for: Hummingbird Energy LLC



3000 E Cesar Chavez Street, Suite 400
Austin, TX 78702

Prepared by:



Austin, Texas 78702
Tel 512 605 2640 Toll-free 800 368 7511
www.cardno.com

1 Executive Summary

Cardno, now Stantec (Cardno) was contracted by Recurrent Energy (Recurrent) to conduct an environmental resource assessment on approximately 4,137 acres, referenced as Hummingbird Solar (Project Area) in Fleming County, Kentucky. The tasks performed as part of this assessment included review of threatened and endangered (T&E) species, potential Waters of the United States (WOTUS), and cultural resources. The methodology and results of the reviews as they pertain to the Project Area are contained within and summarized below.

Threatened and Endangered Species

Cardno reviewed federal and state resources to determine if habitat may exist for listed species within the Project Area. In total, there are **ten (10)** federally listed threatened or endangered species with the potential to occur within or be affected by the Project: Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), gray bat (*Myotis grisescens*), pink mucket (*Lampsilis abrupta*), snuffbox mussel (*Epioblasma triquetra*), fanshell (*Cyprogenia stegaria*), sheepsnose (*Plethobasus cyphus*), northern riffleshell (*Epioblasma rangiana*), Virginia spiraea (*Spiraea virginiana*) and Short's goldenrod (*Solidago shortii*). Critical habitat for Indiana bat was identified immediately east the Project Area at the Fleming-Lewis County border.

Potential habitat for federally listed bat species would be limited to forested areas within the Project Area that may contain foraging habitat and roosting trees (trees with loose bark or hollows greater than 5 inches diameter breast height [DBH]). Cardno scientists investigated the Project Area for habitat as defined in the United States Fish and Wildlife Service (USFWS) “Range-wide Indiana Bat Survey Guidelines” (also applicable to northern long-eared bat). Forested areas within the Project Area appear to provide suitable foraging habitat relatively close to permanent or semi-permanent streams. Formal presence/absence surveys are recommended should forested habitat be impacted during active bat season (mid-April through October). Additionally, migratory bird nesting surveys are recommended if construction will occur during the nesting season and if scrub/shrub and trees are expected to be cleared as part of the Project.

Perennial streams within the Project Area could provide habitat for the federally listed endangered mollusks. A field site survey to assess the potential habitat for this species is recommended and may result in the recommendation of formal presence/absence surveys if impacts to perennial streams within the Project Area are anticipated. Consideration for these species is only necessary if potential impacts are expected to the streams as a result of Project activities.

The Project Area could contain habitat for the federally listed endangered Short's goldenrod, as well as the federally listed threatened Virginia spiraea. Presence/absence surveys during the flowering seasons for these species are recommended in any areas that are anticipated to be impacted as a result of the Project. The flowering seasons for these species are as follows: Short's goldenrod (August-October) and Virginia spiraea (June-July).

Wetlands and Waterbodies

Cardno scientists identified **sixty-three (63)** wetlands, including freshwater ponds, occupying 29.90 acres and **one hundred and four (104)** stream features, including Fleming Creek, Trotter Creek, Wilsons Run, and Farrow's Creek within the Project Area. **One hundred and two (102)** streams were determined to have direct nexus to the traditionally navigable water (TNW) the Ohio River. **Thirty-eight (38)** of the wetlands exhibited overland hydrological connection to potentially jurisdictional stream features. Therefore, it is Cardno's opinion that streams with significant nexus to the Ohio River and wetlands with hydrological connectivity to stream features could be considered jurisdictional under United States Army Corps of Engineers (USACE) guidance.

If any potentially impacted streams and/or wetlands are deemed jurisdictional by the USACE, the proposed Project could be completed under Nationwide Permit (NWP) 51 - Land-Based Renewable Energy Generation Facilities; NWP 14 - Linear Transportation Projects, and/or NWP C/57 - Electric Utility Line and Telecommunications Activities. Additionally, the Project would need to develop a Storm Water Pollution Prevention Plan (SWPPP) and provide Notice of Intent (NOI) prior to construction. As stated in the text of the NWPs, the discharge of dredged or fill material into wetlands and non-tidal WOTUS must not cause the loss of greater than ½-acre of wetlands and non-tidal WOTUS. If activities from the construction of the energy generation facility and associated infrastructure, such as roads, parking lots, stormwater management facilities, and pipelines, permanently impact less than ½-acre, then the Project may proceed utilizing a NWP. Permanent impacts which exceed the ½-acre threshold for NWPs will require an Individual Permit.

Floodplains

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), approximately 161.43 acres (3.9%) of the Project falls within the 100-year floodplain, concentrated along the North Fork Licking River. Therefore, a development permit is necessary if alterations to the floodplain are expected to construct the proposed Project.

Cultural Resources

Cardno's cultural resource specialists reviewed information regarding known archeological and historic sites, as well as prior cultural resources studies, available through the Kentucky Office of State Archaeology and Kentucky Historic Council (KHC) database of historic and architectural resources. A review of records indicated **six (6)** previous cultural resource surveys, **five (5)** previously recorded archaeological sites, **ten (10)** historic cemeteries and **thirty-eight (38)** historical structures were identified within 1.5 miles of the Project Area. One (1) of the identified structures, the Abraham McGowan House, is listed on the National Register of Historic Places (NRHP), located within the Project Area in the western portion. Other structures have the potential to be listed under the NRHP and it is expected that undocumented archaeological sites exist within the boundaries of the Project Area. If there is a need to acquire federal permits before the Project can commence, the KHC may request that a Phase I survey be conducted due to fact that the potential exists for additional sites to exist within the Project Area and the presence of potentially NRHP eligible sites in proximity to the Project Area.

2 Introduction

Cardno was contracted by Recurrent Energy to conduct an environmental resource assessment for potential habitat of federally listed T&E species, cultural resources, and WOTUS that may exist within the Project Area in Fleming County, Kentucky (**Figure 2-1**). The Project Area consists of approximately 4,137 acres of land that was assessed by Cardno in December of 2021.

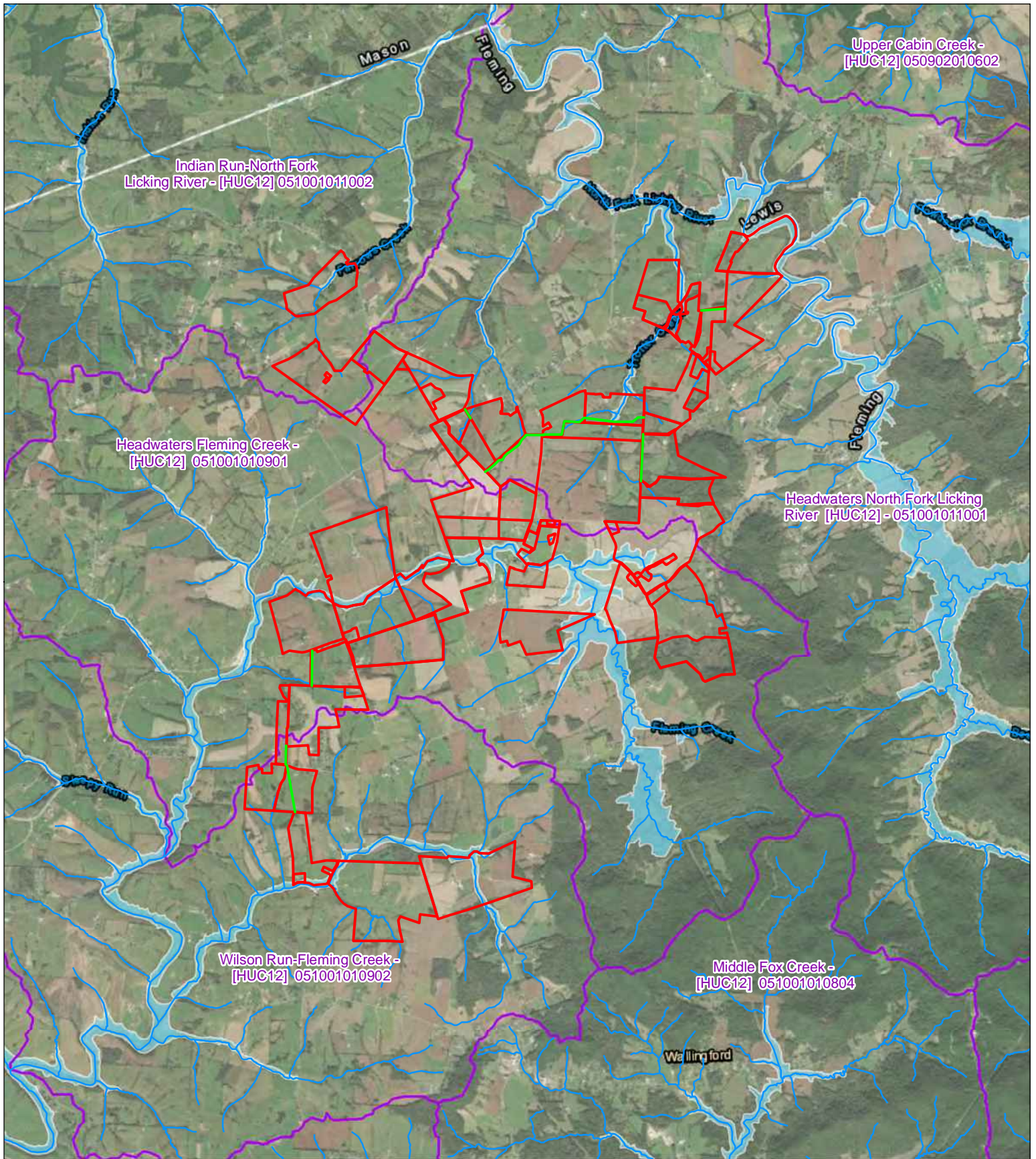
This environmental assessment included both desktop and field investigations. The desktop investigations included:






- Identify potential WOTUS and their limits within the Project Area;
- Review of land cover types, soils, and farmland classification;
- Identification of floodplains, sinkholes, and other geologic features (if applicable);
- Evaluate the potential for federally listed T&E species habitat to occur within the Project Area; and
- Review cultural resources that may be located within or near the Project Area that may be impacted.


Cardno scientists conducted field surveys within the Project Area from December 7 – 10, 2021. The field investigations included:

- Delineate the approximate boundaries of wetlands and waterbodies within the Project Area;
- Documentation of general site conditions;
- Evaluation of the potential for federally listed species habitat, including a bat habitat survey; and
- Confirmation of vegetation features identified in the desktop analysis.

The results of the desktop and field investigations are provided in this report.



	NHDFlowline
	Utility_Corridors
	WBDHU12
	Project Area
	100-Year Floodplains (Unstudied BFE)



0 4,200
Feet



Stantec

Hummingbird Energy LLC Solar Project
Environmental Resource Assessment
Fleming County, Kentucky

Project Area Overview

Date: February 2022	Project No: E320201701	Figure No: 2-1
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3 Site Characteristics

The Project is located near the community of Mt. Carmel and lies within Fleming County, Kentucky. According to the United States Environmental Protection Agency (USEPA) Level III and IV Ecoregions of Kentucky map accessed December 2021, the Project Area falls within two Level IV ecoregions in two separate Level III ecoregions. A majority lies within the Outer Bluegrass (71d) ecoregion, and consists of sinkholes, springs, entrenched rivers, and intermittent and perennial streams. At the time of settlement, open savanna woodlands were found on most uplands. On less fertile, more acidic soils derived from Silurian dolomite, white oak stands occurred and had barren openings. Cane grew along streams and was especially common in the east. Today, pastureland and cropland are widespread and dissected areas are wooded (Woods 2002).

The remaining portion of the Project falls within the Knobs'-Lower Scioto Dissected Plateau (70D) consisting of rounded hills and ridges, narrow valleys with high gradient streams, and a few wide, locally swampy, bottoms underlain by weak shales. Cliffs occur especially in the south. High amounts of topographic and geologic variation are typical and create substantial ecological diversity. Uplands knobs are forested and oak and oak-pine forests predominate. Broad valleys are mostly covered by bottomland forests but some are used for livestock or general farming (Woods 2002).

The Project is located within the Upper Ordovician Limestone formation. This formation is characterized by Mississippian to Ordovician-age limestone, calcareous shale, sandstone, siltstone and shale. Rock types are unlike the unconsolidated coastal plain sediments or the Pennsylvanian carboniferous sedimentary rocks (Woods 2002).

3.1 Wildlife Communities

Wildlife species likely to occur in the forest, field, and transitional ecotone habitats of the Project Area are those typically found in similar habitats across the state. Mammals likely to occur include the white-tailed deer (*Odocoileus virginianus*), groundhog (*Marmota monax*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), gray squirrel (*Sciurus carolinensis*), eastern chipmunk (*Tamias striatus*), white-footed mouse (*Peromyscus leucopus*), woodland vole (*Microtus pinetorum*), short-tailed shrew (*Blarina brevicauda*), and cotton mouse (*Peromyscus gossypinus*).

Birds likely to occur in the habitats of the Project Area include perching birds, birds of prey, game birds, wading birds and waterfowl. Perching birds that commonly occur in these habitat types include the American crow (*Corvus brachyrhynchos*), northern cardinal (*Cardinalis cardinalis*), tufted titmouse (*Baeolophus bicolor*), brown thrasher (*Toxostoma rufum*), northern mockingbird (*Mimus polyglottos*), American robin (*Turdus migratorius*), chipping sparrow (*Spizella passerina*), and Carolina wren (*Thryothorus ludovicianus*). Birds of prey expected in these habitats include the red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), and turkey vulture (*Cathartes aura*). Game birds likely to occur include the wild turkey (*Meleagris gallopavo*), northern bobwhite (*Colinus virginianus*), and mourning dove (*Zenaidura macroura*). Wading birds and waterfowl likely to utilize riparian, pond, and wetland habitats of the Project Area include the green heron (*Butorides virescens*), great blue heron (*Ardea herodias*), Canada geese (*Branta canadensis*), trumpeter swan (*Cygnus buccinator*) and wood ducks (*Aix sponsa*).

Reptiles and amphibians likely to occur in the Project include the common box turtle (*Terrapene carolina*), eastern garter snake (*Thamnophis sirtalis*), timber rattlesnake (*Croatus horridus*), black racer (*Coluber constrictor*), fence lizard (*Sceloporus undulatus*), upland chorus frog (*Pseudacris triseriata feriarum*), and American toad (*Bufo americanus*).

Many of these species are most likely to be found in relatively undisturbed areas of upland and riparian forest on the Project Area. However, large portions of the Project consist of actively farmed agricultural fields and pastureland, and the remaining undisturbed tracts of forest are fragmented with limited connectivity. Overall species diversity is expected to be moderately low and/or transient, and most species present are widespread in their occurrence, adapted to open field and edge habitats. The ponds found within the Project Area are likely utilized by reptiles and amphibians year-round and waterfowl during the winter season.

3.2 Hydrology

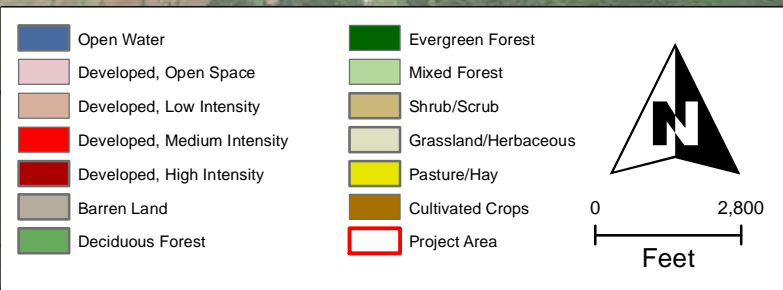
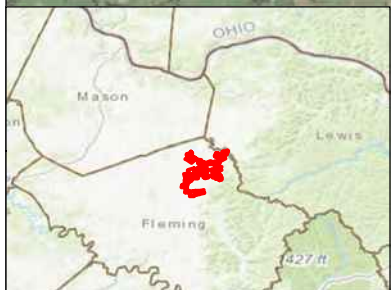
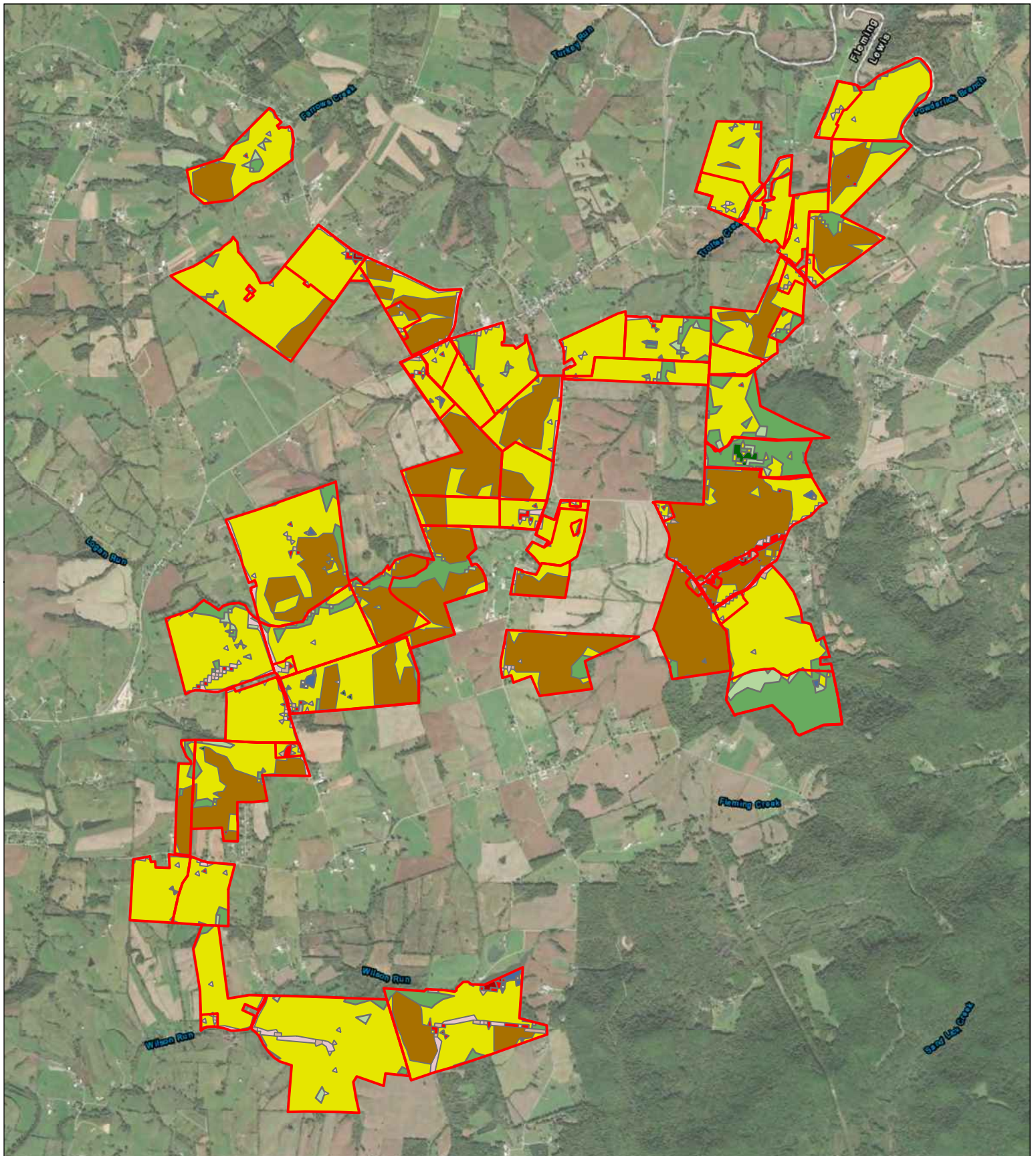
The Project Area is located within the Indian Run-North Fork Licking River, Headwaters North Fork Licking River, Headwaters Fleming Creek, and Wilson Run-Fleming Creek watersheds (Hydrologic Unit Codes [HUC] 051001011001, 051001011001, 051001010901, 051001010902, respectively). The Louisville USACE district office exercises regulatory jurisdiction over the Ohio River, to which the major streams located within the Project have a significant nexus. Tributaries to navigable waters may not be navigable themselves but have a significant impact on water quality downstream through significant nexus and therefore, are also under the jurisdiction of the USACE. No named TNWs are located within the Project Area. However, non-navigable tributaries with a significant nexus to the Ohio River are present within the Project Area (USGS 2021). The Project Area is relatively well drained by topography and overland flow. Natural drainages and agricultural ditches flow towards the North Fork Licking River, Fleming Creek, and Trotter Creek.

According to the FEMA FIRM Panels FM21069C0125C and FM 21069C0150C, approximately 161.43 acres of the Project is located within the 100-year floodplain, concentrated along the North Fork Licking River on the northeastern most extent of the Project (FEMA 2022). The overall hydrology of the Project, including National Hydrology Dataset (NHD) data, Watershed Boundary Dataset (WBD) and floodplain data, is depicted in **Figure 2-1**.

3.3 Land Use

The land located within the Project Area is agricultural and wooded (**Figure 3-1**). Total acreage for NLCD varies slightly from calculated acreage of the Project Area. The land in proximity is rural, mostly of agricultural use with scattered residential development. The National Land Cover Dataset (NLCD) maps the majority of the Project Area as hay/pasture, totaling 2,486.65 acres. Twelve (12) additional land uses are mapped within the Project Area, including 402.84 acres of forested areas (**Table 3-1**).

NLCD Land Cover Type	Acres within Project Area	Percentage of Project Area
Pasture/Hay	2486.65	60.03
Cultivated Crops	1093.30	26.39
Deciduous Forest	351.77	8.49
Developed, Open Space	81.35	1.96
Mixed Forest	46.84	1.13
Developed, Low Intensity	33.61	0.81
Developed, Medium Intensity	26.53	0.64
Open Water	9.61	0.23
Developed, High Intensity	5.12	0.12
Evergreen Forest	4.23	0.10
Grassland/Herbaceous	1.53	0.04
Barren Land	1.20	0.03
Shrub/Scrub	0.81	0.02
Total	4142.56	100%



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Hummingbird Energy LLC Solar Project
 Environmental Resource Assessment
 Fleming County, Kentucky

National Land Cover Dataset

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3.4 Soil Series

Soils within the Project Area can be generally described as very well to somewhat poorly drained silty soils that occur on varying landforms. According to the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) website, thirty-two (32) units are mapped within the Project Area. Each of the units are listed and described below (**Table 3-2**).

Soil Name	Soil Symbol	Drainage Class	Permeability	Water Table Depth (in)	Surface Runoff	Meets Hydric Criteria	% of Project Area
Beasley silt loam, 2 to 6 percent slopes	BaB	Well Drained	Very Low to Moderately Low	> 80	Medium	No	13.9%
Beasley silty clay loam, 6 to 12 percent slopes, eroded	BeC2	Well Drained	Moderately High	> 80	Medium	No	27.9%
Beasley-Shrouts complex, rocky, 12 to 30 percent slopes, very rocky, eroded	BhE2	Well drained	Moderately high	> 80	High	No	0.0%
Beasley-Shrouts complex, rocky, 12 to 30 percent slopes, severely eroded	BhE3	Well Drained	Moderately High (Beasley) Very Low to Moderately Low (Shrouts)	> 80	High	No	17.6%
Blairton silt loam, 6 to 12 percent slopes, eroded	BrC2	Moderately well drained	Moderately low	12-30	-	No	0.1%
Boonesboro silt loam, frequently flooded	Bs	Well drained	Moderately High to High	> 80	Medium	No	0.5%
Brownsville-Berks complex, very rocky, 20 to 55 percent slopes, eroded	BwF2	Well drained	Moderately high to high	> 80	Very high	No	0.3%
Crider silt loam, 2 to 6 percent slopes	CrB	Well Drained	Moderately High to High	> 80	Medium	No	3.6%
Crider silt loam, 6 to 12 percent slopes	CrC	Well Drained	Moderately High to High	> 80	Medium	No	0.9%
Cynthiana-Faywood complex, very rocky, 12 to 35 percent slopes, eroded	CyE2	Well Drained	Moderately High (Cynthiana) Moderately Low to Moderately High (Faywood)	> 80	High	No	0.5%
Elk silt loam, 2 to 6 percent slopes, rarely flooded	ErB	Well Drained	Moderately High to High	> 80	Low	No	0.5%
Elk silt loam, 6 to 12 percent slopes, rarely flooded	ErC	Well Drained	Moderately High to High	> 80	Medium	No	0.4%
Lawrence silt loam, 0 to 2 percent slopes	La	Somewhat Poorly Drained	Moderately Low to Moderately High	12 - 18	Low	4% Hydric	7.0%
McGary silt loam	Ma	Somewhat Poorly Drained	Moderately Low to Moderately High	12 - 18	Low	2% Hydric	3.8%
Kinnick silt loam, occasionally flooded	Kn	Well drained	Moderately high to high	42 – 72	Low	No	0.0%
Muse channery silt loam, 6 to 12 percent slopes, eroded	MsC2	Well Drained	Moderately Low to Moderately High	48 - 59	High	No	0.3%
Muse channery silt loam, 12 to 20 percent slopes, eroded	MsD2	Well Drained	Moderately Low to Moderately High	48 - 59	High	No	0.6%
Muse-Shrouts complex, 6 to 20	MtD3	Well Drained	Moderately High to High (Muse)	> 80	High	No	0.7%

Table 3-2 Characteristics of Soil Mapping Units within the Project Area

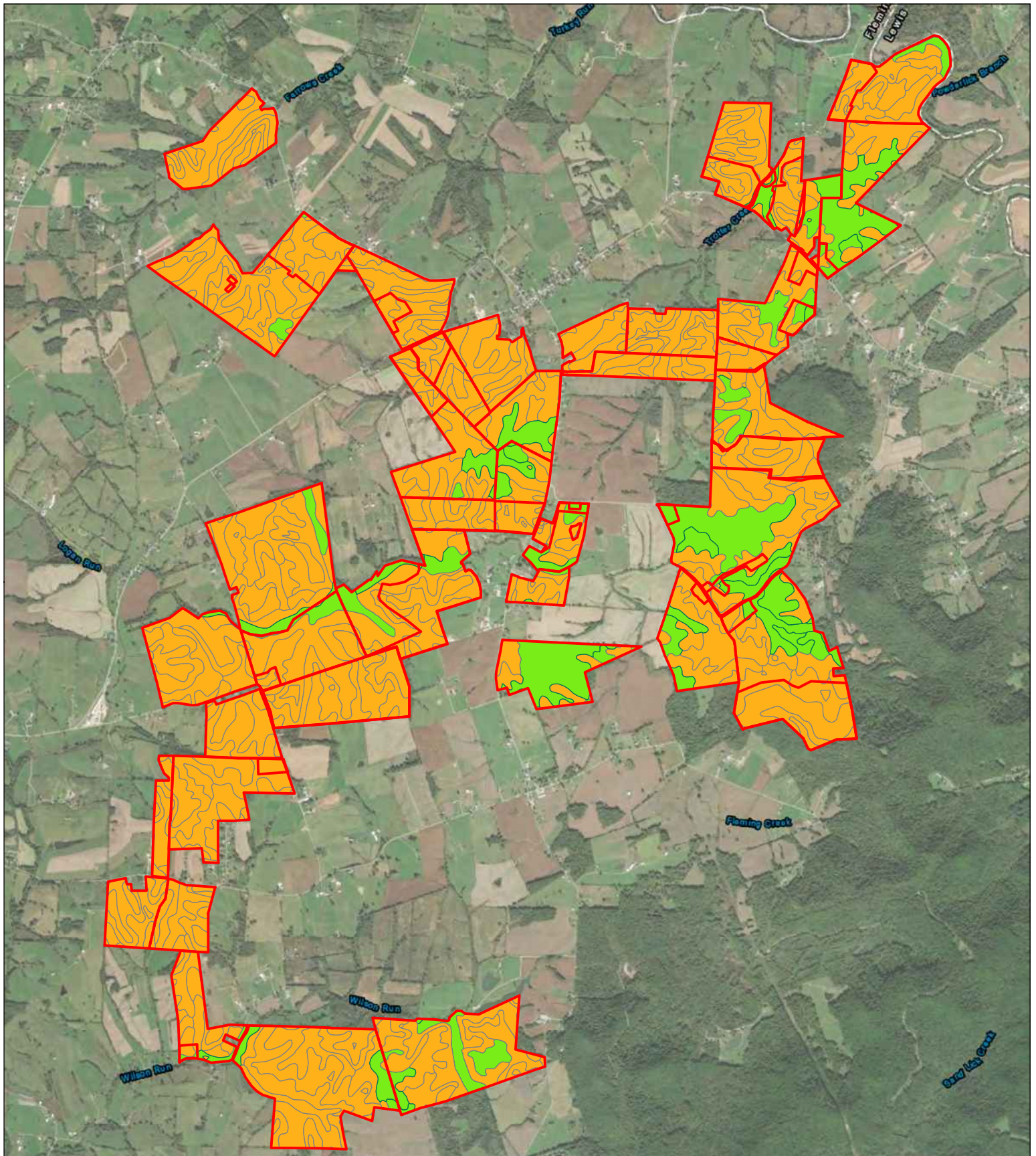
Soil Name	Soil Symbol	Drainage Class	Permeability	Water Table Depth (in)	Surface Runoff	Meets Hydric Criteria	% of Project Area
percent slopes, severely eroded			Very Low to Moderately Low (Shrouts)				
Muse-Trappist complex, 20 to 55 percent slopes, eroded	MuF2	Well Drained	Moderately Low to Moderately High	48 - 59	High (Muse) Very High (Trappist)	No	1.5%
Newark silt loam, 0 to 3 percent slopes, occasionally flooded	Ne	Somewhat Poorly Drained	Moderately High to High	10 - 18	Low	5% Hydric	1.8%
Nicholson silt loam, 2 to 6 percent slopes	NhB	Moderately Well Drained	Moderately Low to Moderately High	13 - 27	Medium	No	6.2%
Nicholson silt loam, 6 to 12 percent slopes	NhC	Moderately Well Drained	Moderately Low to Moderately High	13 - 27	Medium	No	0.7%
Nolin silt loam, 0 to 3 percent slopes, occasionally flooded	No	Well Drained	Moderately High to High	> 80	-	5% Hydric	2.7%
Otwood silt loam, 2 to 6 percent slopes – Fleming County	OtB	Moderately Well Drained	Very Low to Moderately Low	20 - 32	Low	No	1.1%
Otwood silt loam, 2 to 6 percent slopes – Lewis County	OtB	Moderately Well Drained	Very Low to Moderately Low	20 - 32	Low	No	0.0%
Sandview silt loam, 2 to 6 percent slopes	SaB	Well Drained	Moderately High	> 80	Medium	No	0.0%
Shrouts silty clay loam, 2 to 6 percent slopes	SsB	Well Drained	Very Low to Moderately Low	> 80	Medium	No	1.6%
Shrouts silty clay, 6 to 12 percent slopes, severely eroded	StC3	Well Drained	Very Low to Moderately Low	> 80	High	No	2.1%
Shrouts silty clay, 12 to 20 percent slopes, severely eroded	StD3	Well Drained	Very Low to Moderately Low	> 80	High	No	0.8%
Lowell-Faywood silt loams, 6 to 12 percent slopes	uLFC	Well Drained	Very Low to Moderately High (Lowell) Very Low to Moderately Low (Faywood)	> 80	Medium	No	0.0%
Lowell-Faywood silt loams, 12 to 20 percent slopes	uLFD	Well Drained	Very Low to Moderately High (Lowell) Very Low to Moderately Low (Faywood)	> 80	High	No	0.0%
Water	W	-	-	-	-	-	0.5%
Woolper silt loam, 2 to 6 percent slopes, rarely flooded	WoB	Well Drained	Moderately Low to Moderately High	> 80	Medium	No	2.2%

(NRCS 2022)

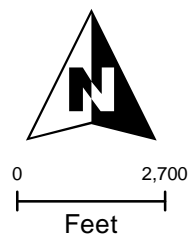
None of the map units of the Project Area meet the hydric soils criteria as described by the National Technical Committee for Hydric Soils (NTCHS). However, four (4) units, encompassing 14.0% of the Project Area, have a hydric minor component and vary in percentage. **Figure 3-2** demonstrates soils in the Project Area with an emphasis on hydric soils.

It should be noted that caution must be used when comparing the list of hydric components to soil survey maps. Many of the soils on the list have ranges in water table depths that allow the soil component to range from hydric to non-hydric depending on the location of the soil within the landscape as described in the map

unit. Lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but they are not a substitute for observations made during onsite investigations.



- Not Hydric
- Partially Hydric
- Project Area



Hummingbird Energy LLC Solar Project
Environmental Resource Assessment
Fleming County, Kentucky

Soils within Project Area

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4 Assessment Methodology

Cardno conducted an environmental assessment of the Project Area utilizing local and federal Geographic Information System (GIS) data to identify potential wetlands, waterbodies, hydric soils, and floodplains that could affect the Project development process. Potential WOTUS were identified utilizing the following data sources: USFWS National Wetland Inventory (NWI) GIS data layer (USFWS 2021); NHD and WBD datasets, United States Geologic Survey (USGS) topographic maps (USGS 2019); and FEMA FIRM Panels. A field survey was conducted to confirm and delineate features identified in the desktop review.

Cardno also performed a review of potential T&E species and habitat that may be found at or near the Project Area. Information obtained from the USFWS Information for Planning and Consultation (IPaC) was reviewed, as well as the Kentucky Division of Fish and Wildlife Resources (KDFWR), which maintains a database of rare species and occurrences in Fleming County. All species listings were reviewed for compatible habitat within or near the Project Area boundaries. The USFWS “*Range-wide Indiana Bat Summer Survey Guidelines*” and Phase I habitat assessment datasheets were utilized to assess bat habitat potential within the Project Area. Results of the bat habitat survey is included in **Appendix E**.

Cardno’s cultural resource specialists reviewed information regarding known archeological and historic sites, as well as prior cultural resources studies, available through the Kentucky Office of State Archaeology and Kentucky Historic Council, accessed January 2022. Cardno also reviewed USGS topographic maps, current, and historic aerial imagery for evidence of historic use within the Project Area.

Representative photos were taken of each vegetation community observed to provide visual documentation of site conditions as they existed during the field survey. Results of the desktop and field investigations are provided in **Section 5**.

4.1 Wetland and Stream Delineation

The delineation of WOTUS, including wetlands was conducted during site visits to the Project Area in December of 2021. Cardno scientists performed all wetland delineation surveys in accordance with the USACE Wetland Delineation Manual (USACE 1987), in conjunction with the Eastern Mountain and Piedmont Regional Supplement to the USACE Delineation Manual (USACE 2012).

Wetlands are collectively defined by the USACE and the U.S. Environmental Protection Agency (USEPA) as those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. An area is a wetland if it meets the wetland hydrology, hydrophytic vegetation, and hydric soil criteria established in the USACE Manual.

Cardno scientists collected all pertinent field data information on USACE Eastern Mountains and Piedmont wetland determination datasheets (**Appendix C**).

Hydrophytic Vegetation

Hydrophytic vegetation is defined as “the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (USACE 1987).” Dominant vegetation was identified and categorized in accordance with the regional indicator status in the national list of plant species that occur in wetlands (USACE; USEPA 2020). The indicator status of a plant species is expressed in terms of the estimated probability of that species to occur in wetland conditions within a given region. **Table 4-1** lists the plant indicator status categories. A vegetative community would be classified as hydrophytic if more than 50 percent of the dominant species present were rated as facultative (FAC), facultative wetland (FACW), or obligate wetland (OBL) plants.

Table 4-1 Plant Indicator Status Categories

Category	Indicator	Frequency of Occurrence in Wetlands (percent)
Obligate Wetland Plants	OBL	Plants that occur almost always (estimated probability >99%) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1%) in non-wetlands. Examples: <i>Carya aquatica</i> , <i>Persicaria punctata</i> .
Facultative Wetland Plants	FACW	Plants that occur usually (estimated probability 67-99%) in wetlands, but also occurring in both wetlands and non-wetlands. Examples: <i>Spartina patens</i> ; <i>Panicum dichotomiflorum</i> .
Facultative Plants	FAC	Plants with a similar likelihood (estimated probability of 33-67%) of occurring in both wetlands and non-wetlands. Examples: <i>Stenotaphrum secundatum</i> ; <i>Rumex crispus</i> .
Facultative Upland Plants	FACU	Plants that occur sometimes (estimated probability 1-33%) in wetlands but occur more often (estimated probability 67-99%) in non-wetlands. Examples: <i>Cirsium vulgare</i> ; <i>Rubus trivialis</i> .
Obligate Upland Plants	UPL	Plants that occur rarely (estimated probability <1%) in wetlands, but almost always (>99% estimated probability) in non-wetlands. Examples: <i>Geranium carolinianum</i> .

Wetland Hydrology

Wetland hydrology includes all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively (USACE 1987).

Hydric Soils

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper stratum. In general, hydric soils are flooded, ponded, or saturated for a week or more during the growing season when soil temperatures are above 32 degrees Fahrenheit. The anaerobic conditions created by repeated or prolonged saturation or flooding result in permanent changes in soil color and chemistry and are used to differentiate hydric from non-hydric soils (USACE 1987).

At each recorded data point, a pit up to 20-inches deep was excavated for evaluation. Soils were surveyed for horizon profile, matrix, value, chroma, texture, and concretions. Hydric soils were determined to be present if one primary hydric soil indicator was present. Background soils information of the Project Area was obtained from the USDA NRCS Web Soil Survey.

4.2 Mapping

All delineated features were recorded using a sub-meter Global Positioning System (GPS) device. The GPS was programmed to record points with a minimum of four satellites and a Position Dilution of Precision (PDOP) value no greater than 6.0. Water features were delineated by collecting GPS points along the perimeter of the wetland and within the boundaries of the bed and bank of stream features with suitable frequency to represent the feature within the Project Area.

4.3 Photographs

Photographs are the visual documentation of site conditions as they existed during the field survey. Representative photos were taken at all delineated features. For all features, a minimum of one photo was taken. The photographic log is provided in **Appendix B**.

5 Results of Findings

5.1 Threatened and Endangered Species Review

Cardno conducted a desktop analysis utilizing information from the USFWS IPaC and the KDFWR database (**Appendix F**) to obtain information on federally listed species that have the potential to occur within or be affected by the Project. Species identified by the KDFWR are ranked using the state heritage ranking. Listed species and its habitat requirements are described in **Table 5-1**.

In total, there are **ten (10)** federally listed species with the potential to occur within the Project Area (USFWS 2021). Six (6) species were listed in the KDFWR database with known occurrences in Fleming County (KDFWR 2021). No critical habitat was identified within the Project Area; however, critical habitat for the Indiana bat was identified immediately east of the Project Area, on the Fleming-Lewis County border.

Table 5-1 Threatened and Endangered Species of Fleming County

Group	Common Name	Scientific Name	Likelihood of Occurrence	Habitat	Federal Status	State Status
Mollusks	Pink mucket (Pearlymussel)	<i>Lampsilis abrupta</i>	Moderate	It inhabits shallow riffles and shoals of major rivers and tributaries and is found in rubble, gravel or sand substrates that have been swept free of silt by the current. Considered endemic to the Interior Basin and is found primarily in the Tennessee, Cumberland and Ohio River drainages.	E	-
	Snuffbox Mussel	<i>Pleurobema plenum</i>	Moderate	Found in medium to large rivers in sand, gravel, and cobble substrates in shoals. It is occasionally found on flats and muddy sand.	E	E
	Fanshell	<i>Cyprogenia stegaria</i>	Moderate	This mussel species inhabits medium to large rivers. It has been reported primarily from relatively deep water in gravel substrate with moderate current.	E	E
	Sheepnose	<i>Plethobasus cyphus</i>	Moderate	Larger rivers and streams where they are usually found in shallow areas with moderate to swift currents that flow over coarse sand and gravel. However, they have also been found in areas of mud, cobble and boulders, and in large rivers they may be found in deep runs.	E	E
	Northern Riffleshell	<i>Epioblasma rangiana</i>	Moderate	This mussel is found in a wide variety of streams from large to small. It buries itself in bottoms of firmly packed sand or gravel with its feeding siphons exposed.	E	E

	Indiana bat	<i>Myotis sodalis</i>	Moderate	Summer habitat includes small to medium river and stream corridors with well-developed riparian woods; woodlots within 1 to 3 miles of small to medium rivers and streams; and upland forests	E	-
Mammals	Northern long-eared bat	<i>Myotis septentrionalis</i>	Moderate	Northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). Males and non-reproductive females may also roost in cooler places, like caves and mines. Northern long-eared bats seem to choose roost trees based on suitability to retain bark or provide cavities or crevices and has also been found rarely roosting in structures, like barns and sheds.	T	E
	Gray bat	<i>Myotis grisescens</i>	Moderate	With rare exceptions, gray bats live in caves year-round. During the winter gray bats hibernate in deep, vertical caves. In the summer, they roost in caves which are scattered along rivers. These caves are in limestone karst areas of the southeastern United States. They do not use houses or barns.	E	-
Flowering Plants	Short's Goldenrod	<i>Solidago shortii</i>	Moderate	This species occurs in moist, gravelly, well-drained soils in full sun to part shade. Best performance is in full sun.	E	E
	Virginia Spiraea	<i>Spiraea virginiana</i>	Moderate	This species occurs along riverbanks and boulder/cobble bars that are periodically flood scoured.	T	-

E-Endangered, T-Threatened

Based on review of recent and historical aerial imagery, the vast majority of the Project Area consists of agricultural land and patches of woodlands. Several perennial streams flows through the Project Area and could potentially support mollusks species. If impacts to the perennial streams are anticipated, a recommendation of formal presence/absence surveys may be requested by the agencies. Additionally, migratory bird nesting surveys are recommended if construction will occur during the nesting season and if scrub/shrub and trees will be cleared as part of the Project.

Potential habitat for federally listed bat species exists within the Project Area and would be limited to forested areas that may contain roosting trees (trees with loose bark or hollows greater than 5 inches DBH). Cardno conducted a thorough habitat survey per USFWS guidelines (USFWS 2020) in order to rule out potential roosting and/or foraging habitat within all forested areas of the Project Area. Two potential roosting trees were identified within the Project Area near riparian corridors.

The Project Area has moderate potential to contain habitat for the federally listed endangered Short's goldenrod, and federally listed threatened Virginia spiraea. Presence/absence surveys during the flowering seasons for these species are recommended in any areas that are anticipated to be impacted as a result of the Project. The flowering seasons for these species are as follows: Short's goldenrod (August-October) and Virginia spiraea (June-July).

5.2 Waters of the U.S. Delineation

While Cardno cannot formally determine the jurisdictional status of a waterbody or wetland, Cardno has evaluated features in the Project Area for potential federal jurisdiction from on-site field delineation. Our interpretation is made based on available documentation from the USEPA, including guidance on the “Current Implementation of Waters of the United States” which refers to the original 1986/1988 promulgation and subsequent Supreme Court cases which further defined the term, with the most current definition determined by the 2008 ruling following the *Rapanos v. United States* case (USEPA 2021).

The agencies will assert jurisdiction over the following waters:

- Traditional navigable waters (TNW),
- Wetlands adjacent to TNWs,
- Non-navigable tributaries of TNWs that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months), and,
- Wetlands that directly abut such tributaries.

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent,
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent, and,
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow), and
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The following are the results of the climatic conditions assessment and field delineation with the Project Area.

Precipitation Data

According to the USACE Antecedent Precipitation Tool (APT) (Version 1.0.19), climatic conditions at the Project Area during the time of survey were considered normal conditions during the wet season. Drought index through the Palmer Drought Severity Index (PDSI) indicated extreme wetness. No precipitation fell during the days of survey; however, 0.72 inches of rain had fallen in the two weeks preceding the field visit.

Date	Precipitation Amount (in)	Date	Precipitation Amount (in)	Date	Precipitation Amount (in)
11-25-2021	0.19	11-30-2021	0.00	12-5-2021	0.00
11-26-2021	0.00	12-1-2021	0.00	12-6-2021	0.53
11-27-2021	0.00	12-2-2021	0.00	12-7-2021	0.00
11-28-2021	0.00	12-3-2021	0.00	12-8-2021	0.00
11-29-2021	0.00	12-4-2021	0.00	12-9-2021	0.00

Precipitation amounts were high during the months of August and September and began to wane during the month of November. Based on the 30-year rolling average, the amount of precipitation received during the field survey was normal, even though the PDSI indicated extreme wetness. Results of the APT for the Project Area are included in **Appendix G**.

Wetlands

In total, **sixty three (63)** wetlands, including freshwater ponds (PUB), were delineated within the Project Area. **Thirty-eight (38)** wetlands have significant nexus to a TNW. The remaining twenty-five (25) wetlands are isolated in nature and are not likely to be considered jurisdictional under USACE guidance.

Table 5-3 Delineated Wetlands

Map ID ¹	Wetland Classification ²	Latitude ³	Longitude ³	Acreage within Survey Area	Potentially Jurisdictional?
Wet-01	PUB	38.425800	-83.643000	0.81	No
Wet-02	PUB	38.428320	-83.658300	0.17	Yes
Wet-03	PUB	38.424830	-83.657500	0.44	No
Wet-04	PUB	38.425990	-83.660700	0.44	No
Wet-05	PUB	38.427760	-83.672500	0.23	No
Wet-06	PUB	38.437170	-83.681200	0.37	Yes
Wet-07	PUB	38.438700	-83.677500	1.09	No
Wet-08	PUB	38.440940	-83.677300	0.19	No
Wet-09	PUB	38.440260	-83.672400	0.49	No
Wet-10	PEM	38.445990	-83.673600	0.22	Yes
Wet-11	PUB	38.445570	-83.673300	0.11	Yes
Wet-12	PUB	38.447720	-83.667600	0.58	Yes
Wet-13	PEM	38.448490	-83.665100	0.16	Yes
Wet-14	PUB	38.452440	-83.668000	0.34	Yes
Wet-15	PUB	38.450300	-83.665700	0.57	Yes
Wet-16	PEM	38.453380	-83.671000	0.15	No
Wet-17	PEM	38.454870	-83.669600	0.36	No
Wet-18	PUB	38.457370	-83.669400	0.18	Yes
Wet-19	PUB	38.456730	-83.665600	0.06	Yes
Wet-20	PUB	38.456940	-83.658800	0.21	Yes
Wet-21	PUB	38.466670	-83.667800	0.23	Yes
Wet-22	PUB	38.466490	-83.662400	1.54	Yes
Wet-23	PUB	38.465210	-83.661300	0.04	No
Wet-24	PUB	38.464670	-83.663200	0.20	No
Wet-25	PEM	38.463310	-83.661700	1.39	Yes

Table 5-3 Delineated Wetlands

Map ID ¹	Wetland Classification ²	Latitude ³	Longitude ³	Acreage within Survey Area	Potentially Jurisdictional?
Wet-26	PEM	38.462380	-83.664000	1.20	Yes
Wet-27	PEM	38.463920	-83.668900	0.32	Yes
Wet-28	PUB	38.462190	-83.639700	0.30	Yes
Wet-29	PEM	38.461760	-83.637800	0.69	Yes
Wet-30	PEM	38.471050	-83.643100	0.13	No
Wet-31	PEM	38.469580	-83.639300	0.49	No
Wet-32	PFO	38.472130	-83.639900	0.09	No
Wet-33	PUB	38.470930	-83.639700	0.17	No
Wet-34	PUB	38.478830	-83.646300	0.19	Yes
Wet-35	PEM	38.483030	-83.650300	0.02	Yes
Wet-36	PEM	38.483040	-83.647300	0.08	Yes
Wet-37	PUB	38.485890	-83.653100	0.13	Yes
Wet-38	PUB	38.486240	-83.663900	0.18	Yes
Wet-39	PEM	38.484150	-83.668100	0.04	Yes
Wet-40	PUB	38.484300	-83.667700	0.48	Yes
Wet-41	PEM	38.484350	-83.670700	0.06	Yes
Wet-42	PUB	38.485960	-83.670900	0.16	Yes
Wet-43	PEM	38.485750	-83.671100	0.10	Yes
Wet-44	PUB	38.456040	-83.617100	0.42	No
Wet-45	PUB	38.458830	-83.622800	0.07	No
Wet-46	PUB	38.455340	-83.623400	0.61	Yes
Wet-47	PEM	38.455180	-83.623400	1.98	Yes
Wet-48	PUB	38.468000	-83.612100	1.54	No
Wet-49	PEM	38.474960	-83.620000	0.27	Yes
Wet-50	PEM	38.476290	-83.618800	0.06	Yes
Wet-51	PUB	38.476510	-83.619000	0.26	Yes
Wet-52	PFO	38.477000	-83.620400	0.16	No
Wet-53	PUB	38.480470	-83.627500	0.99	Yes
Wet-54	PUB	38.483340	-83.615600	0.11	No
Wet-55	PUB	38.482210	-83.617600	0.35	No
Wet-56	PUB	38.488650	-83.612300	0.30	No
Wet-57	PUB	38.488480	-83.608100	0.06	Yes

Table 5-3 Delineated Wetlands					
Map ID ¹	Wetland Classification ²	Latitude ³	Longitude ³	Acreage within Survey Area	Potentially Jurisdictional?
Wet-58	PUB	38.492030	-83.607300	0.14	No
Wet-59	PUB	38.496140	-83.605100	0.13	No
Wet-60	PEM	38.499150	-83.603900	0.24	Yes
Wet-61	PUB	38.427080	-83.661800	0.20	No
Wet-62	PUB	38.430370	-83.644700	6.62	Yes
Wet-63	PUB	38.474932	-83.644801	0.23	Yes
Total Jurisdictional				21.40	
Total Non-Jurisdictional				8.73	
Total				30.13	
¹ Map Identification represents unique designations given to each wetland during field surveys. ² Wetland Classification represents the wetland classes based on Cowardin, <i>et al.</i> (1979). *PEM: Palustrine Emergent Wetland; PSS: Palustrine Shrub-Scrub Wetland; PUB: Pond Unconsolidated Bottom; PFO: Palustrine Forested Wetland ³ Latitude, Longitude, NAD 83, decimal degrees.					

Streams

One-hundred (100) streams, including Fleming Creek, Trotter Creek, Wilsons Run, and Farrow's Creek were identified within the Project Area. **Thirty-nine (39)** streams are intermittent or perennial in nature and possess a significant nexus to the TNW Ohio River, located north of the Project Area. In addition, **sixty-one (61)** ephemeral streams or wet weather conveyances (WWC) were identified within the Project Area. **Table 5-4** summarizes the waterbodies delineated in the field.

Table 5-4 Delineated Streams					
Map ID ¹	Stream Classification ²	Linear Feet within Survey Area	Latitude	Longitude	Potentially Jurisdictional?
S-A-01	Intermittent	1526.48	38.44979	-83.668967	Yes
S-A-02	Ephemeral	423.48	38.460247	-83.670461	Yes
S-A-03	Ephemeral	1012.03	38.423295	-83.660539	Yes
S-A-04	Ephemeral	552.17	38.448695	-83.667431	Yes
S-A-05	Intermittent	2129.20	38.448049	-83.674314	Yes
S-A-06	Intermittent	705.07	38.466439	-83.660667	Yes
S-A-07	Perennial	3154.5	38.466639	-83.6596	Yes
S-A-08	Intermittent	721.51	38.467477	-83.669048	Yes
S-A-09	Intermittent	1626.19	38.465791	-83.669078	Yes
S-A-10	Ephemeral	464.78	38.466069	-83.668337	Yes
S-A-11	Intermittent	578.55	38.458202	-83.66588	Yes
S-A-12	Intermittent	1846.96	38.458091	-83.661759	Yes
S-A-13	Intermittent	1130.24	38.457892	-83.659753	Yes

Table 5-4 Delineated Streams

Map ID ¹	Stream Classification ²	Linear Feet within Survey Area	Latitude	Longitude	Potentially Jurisdictional?
S-A-14	Perennial	6279.91	38.460181	-83.662348	Yes
S-A-15	Perennial	2706.97	38.459937	-83.654883	Yes
S-A-16	Ephemeral	908.98	38.423672	-83.662602	Yes
S-A-17	Intermittent	319.30	38.458564	-83.653167	Yes
S-A-18	Ephemeral	1544.86	38.456501	-83.636086	Yes
S-A-19	Ephemeral	631.46	38.457306	-83.642615	No
S-A-20	Ephemeral	966.59	38.46178	-83.636702	Yes
S-A-21	Ephemeral	552.11	38.459185	-83.655166	Yes
S-A-22	Ephemeral	596.08	38.464354	-83.639101	Yes
S-A-23	Ephemeral	1181.53	38.459079	-83.625416	Yes
S-A-24	Ephemeral	1894.55	38.454488	-83.623679	Yes
S-A-25	Intermittent	5028.69	38.461145	-83.619454	Yes
S-A-26	Ephemeral	1487.91	38.462197	-83.617476	Yes
S-A-27	Ephemeral	2317.41	38.464984	-83.619147	Yes
S-A-28	Intermittent	4106.70	38.469333	-83.617092	Yes
S-A-29	Intermittent	3457.83	38.476658	-83.640632	Yes
S-A-30a	Intermittent	458.97	38.48099	-83.646403	Yes
S-A-30b	Ephemeral	475.25	38.479459	-83.646289	Yes
S-A-31	Ephemeral	848.30	38.475895	-83.640111	Yes
S-A-32	Ephemeral	487.25	38.474111	-83.643721	Yes
S-A-33	Ephemeral	1320.93	38.470602	-83.617658	Yes
S-A-34	Intermittent	2708.26	38.472359	-83.617453	Yes
S-A-35	Intermittent	1700.95	38.48031	-83.62774	Yes
S-A-36 Trotter Creek	Perennial	2313.70	38.479768	-83.625415	Yes
S-A-37	Ephemeral	610.68	38.479615	-83.624307	Yes
S-A-38	Ephemeral	1081.83	38.477985	-83.624697	Yes
S-A-39	Ephemeral	765.17	38.47788	-83.628028	Yes
S-B-01	Ephemeral	450.82	38.430022	-83.647414	Yes
S-B-02	Ephemeral	377.98	38.462517	-83.639334	Yes
S-B-03	Intermittent	3163.40	38.427473	-83.648585	Yes
S-B-04	Ephemeral	846.83	38.42888	-83.652071	Yes
S-B-05	Ephemeral	2031.61	38.424867	-83.651076	Yes
S-B-06	Perennial	4874.45	38.424108	-83.664262	Yes

Table 5-4 Delineated Streams

Map ID ¹	Stream Classification ²	Linear Feet within Survey Area	Latitude	Longitude	Potentially Jurisdictional?
S-B-07	Ephemeral	957.84	38.425673	-83.664531	Yes
S-B-08	Ephemeral	989.81	38.42837	-83.658089	Yes
S-B-09	Ephemeral	1485.51	38.422143	-83.66415	Yes
S-B-10	Ephemeral	133.11	38.421274	-83.665034	Yes
S-B-11	Ephemeral	402.40	38.421209	-83.663993	Yes
S-B-12	Ephemeral	2350.45	38.430675	-83.672725	Yes
S-B-13	Ephemeral	860.77	38.436918	-83.672642	Yes
S-B-14	Ephemeral	2054.78	38.438645	-83.676395	Yes
S-B-15	Ephemeral	389.29	38.436594	-83.680827	Yes
S-B-16	Ephemeral	748.78	38.437638	-83.678704	Yes
S-B-17	Intermittent	2347.28	38.495272	-83.604389	Yes
S-B-18	Ephemeral	759.55	38.494478	-83.604903	Yes
S-B-19	Ephemeral	463.40	38.494592	-83.602998	Yes
S-B-20	Intermittent	378.23	38.499819	-83.60423	Yes
S-B-21	Ephemeral	474.52	38.489922	-83.608213	Yes
S-B-22	Ephemeral	1685.86	38.48807	-83.607782	Yes
S-B-23	Ephemeral	1117.22	38.451156	-83.669045	Yes
S-B-24	Ephemeral	814.15	38.490364	-83.614697	Yes
S-B-25	Perennial	1297.33	38.428738	-83.668942	Yes
S-B-26	Ephemeral	305.47	38.492634	-83.616341	Yes
S-B-27	Ephemeral	603.94	38.493823	-83.616807	Yes
S-B-28 Trotter Creek	Perennial	379.21	38.497012	-83.615958	Yes
S-B-29	Intermittent	1246.44	38.496106	-83.617643	Yes
S-B-30	Intermittent	1534.27	38.481383	-83.620526	Yes
S-B-31	Ephemeral	283.06	38.48254	-83.620763	Yes
S-B-32	Intermittent	1905.29	38.479548	-83.619298	Yes
S-B-33	Ephemeral	1039.77	38.483506	-83.613365	Yes
S-B-34	Ephemeral	667.00	38.485871	-83.614	No
S-B-35	Ephemeral	1202.39	38.477662	-83.619745	Yes
S-B-37	Ephemeral	528.14	38.472604	-83.621583	Yes
S-B-38	Ephemeral	453.08	38.475061	-83.621225	Yes
S-C-01 Farrows Creek	Perennial	3904.51	38.49588	-83.667394	Yes
S-C-02	Intermittent	584.80	38.495961	-83.668759	Yes

Table 5-4 Delineated Streams

Map ID ¹	Stream Classification ²	Linear Feet within Survey Area	Latitude	Longitude	Potentially Jurisdictional?
S-C-03	Ephemeral	411.16	38.495567	-83.666811	Yes
S-C-04	Ephemeral	146.27	38.495284	-83.666298	Yes
S-C-05	Intermittent	1177.07	38.496903	-83.662906	Yes
S-C-06	Intermittent	632.71	38.497751	-83.666594	Yes
S-C-07	Ephemeral	84.66	38.497937	-83.666779	Yes
S-C-08	Intermittent	782.12	38.484732	-83.653163	Yes
S-C-09	Intermittent	2968.96	38.485125	-83.651403	Yes
S-C-10	Ephemeral	117.12	38.486214	-83.655619	Yes
S-C-11	Ephemeral	236.31	38.486178	-83.654015	Yes
S-C-12	Intermittent	1154.58	38.483132	-83.648616	Yes
S-C-13	Ephemeral	844.33	38.485496	-83.670375	Yes
S-C-14	Ephemeral	2039.74	38.487085	-83.669467	Yes
S-C-15	Intermittent	757.31	38.488975	-83.670159	Yes
S-C-16	Perennial	1395.42	38.487627	-83.667428	Yes
S-C-18	Ephemeral	695.55	38.485069	-83.666509	Yes
S-C-19	Ephemeral	993.25	38.485893	-83.664621	Yes
S-C-20	Ephemeral	1301.21	38.48442	-83.665058	Yes
S-C-21	Ephemeral	185.60	38.483806	-83.664953	Yes
S-C-22	Ephemeral	691.73	38.4852	-83.663759	Yes
S-C-24	Intermittent	1003.42	38.467828	-83.648486	Yes
S-C-25	Intermittent	999.41	38.467559	-83.645588	Yes
S-D-1	Intermittent	1,257.28	38.468086	-83.622053	Yes
S-D-2	Ephemeral	96.41	38.468613	-83.621852	Yes
S-D-3	Ephemeral	1,306.96	38.472557	-83.618754	Yes
S-D-4	Ephemeral	1,395.65	38.476685	-83.638002	Yes
Total Jurisdictional		127,236.78			
Total Non-Jurisdictional		1,298.46			
Total		128,535.24			
¹	Map Identification represents unique designations given to each wetland during field surveys.				
²	Stream Classification determined from topographic maps and field observations.				
³	Latitude, Longitude, NAD 83, decimal degrees.				

Jurisdictional Summary

Cardno scientists identified **sixty-three (63)** wetlands, occupying 29.90 acres total, as well as **one hundred and four (104)** stream features, occupying approximately 127,236.78 linear feet total, within the Project Area. **One hundred and two (102)** streams possess a significant nexus to the TNW Ohio River via Licking

River. **Thirty-eight (38)** wetlands exhibited overland hydrological connection to the jurisdictional stream features. Therefore, it is Cardno’s opinion that wetlands with direct hydrological connection to a potentially jurisdictional stream could be considered jurisdictional under USACE guidance.

Furthermore, wetlands which were found to be hydrologically isolated in nature and man-made drains of ephemeral nature are not likely to be considered jurisdictional by the USACE or the State of Kentucky. These features can be assumed to have been created or altered, if already in existence, by impoundment and manipulation of hydrology due to agricultural activities. It is Cardno’s opinion therefore, that these wetlands and streams could be considered non-jurisdictional by the USACE.

Appendix A of this report contains mapping of all wetlands and waterbodies delineated within the Project Area. **Appendix B** contains a representative photographic log of the delineated wetland and waterbody features.

5.3 Prime Farmland

"Prime farmland" is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture (USDA) recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland is land most suitable for economically producing sustained high yields of food, feed, fiber, forage, and oilseed crops. Prime farmlands are available for agricultural use, i.e., not water or urban built-up land, and have the best combination of soil type, growing season, and moisture supply. Farmland of statewide importance is not federally recognized prime farmland, but land that is important in the production of food, feed, fiber, forage, and oil seed crops. Individual states delineate their own important farmland. The Farmland Protection Policy Act (FPPA), 7 U.S.C.§ 4201 et seq.) requires federal agencies to consider the adverse effects of their actions on prime or unique farmlands. The purpose of the Act is “to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses” (NRCS 2012).

Additionally, land that does not meet the criteria for prime or unique farmland is classified as "farmland of statewide importance" to produce food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

Ten (10) units are classified as Prime Farmland, (7) soil units are classified as Farmland of Statewide Importance, and (4) soil units are classified as Prime Farmland if Drained or Managed collectively comprising 3,110.7 acres (75.2%) of the Project Area (**Figure 5-1**). A summary of soil classification within the Project Area is provided in **Table 5-5**. One soil type is within two soil survey areas and is reported twice.

Soil Symbol	Soil Name	Rating	Area (Acres)	% of Project Area
BaB	Beasley silt loam, 2 to 6 percent slopes	All areas are prime farmland	576.3	13.90%
CrB	Crider silt loam, 2 to 6 percent slopes	All areas are prime farmland	150.1	3.60%
ErB	Elk silt loam, 2 to 6 percent slopes, rarely flooded	All areas are prime farmland	21.9	0.50%
NhB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland	254.5	6.20%
No	Nolin silt loam, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland	113	2.70%

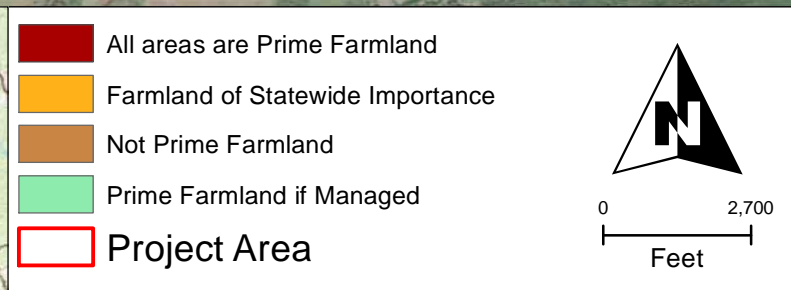
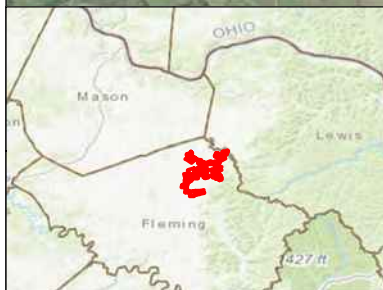
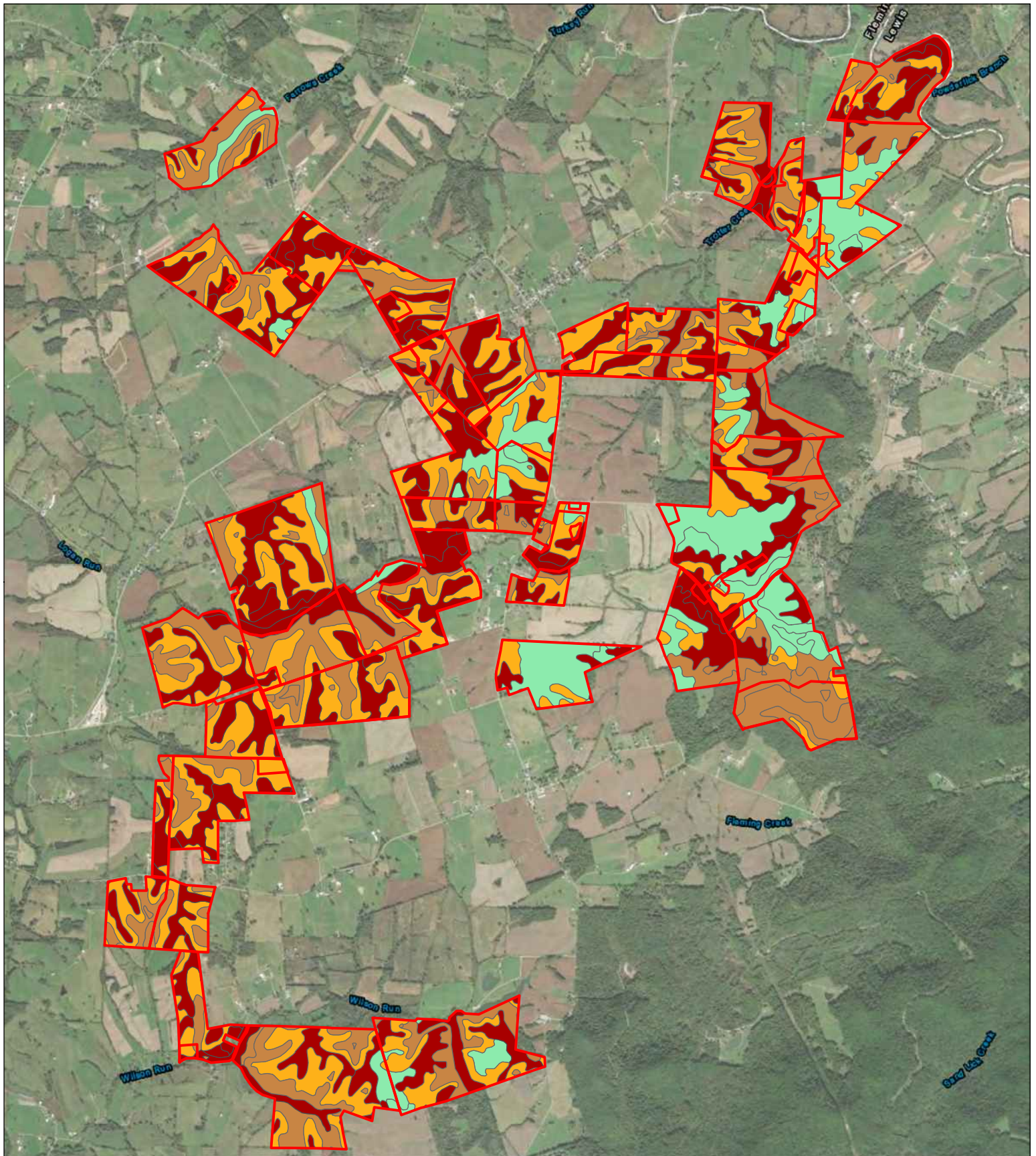
OtB (Fleming County)	Otwood silt loam, 2 to 6 percent slopes	All areas are prime farmland	46	1.10%
SaB	Sandview silt loam, 2 to 6 percent slopes	All areas are prime farmland	0.4	0.00%
SsB	Shrouds silty clay loam, 2 to 6 percent slopes	All areas are prime farmland	64.9	1.60%
WoB	Woolper silt loam, 2 to 6 percent slopes, rarely flooded	All areas are prime farmland	90.7	2.20%
Kn	Kinnick silt loam, occasionally flooded	All areas are prime farmland	0	0.00%
OtB (Lewis County)	Otwood silt loam, 2 to 6 percent slopes	All areas are prime farmland	0.7	0.00%
BeC2	Beasley silty clay loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance	1,154.80	27.90%
BrC2	Blairton silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance	4	0.10%
CrC	Crider silt loam, 6 to 12 percent slopes	Farmland of statewide importance	36.3	0.90%
ErC	Elk silt loam, 6 to 12 percent slopes, rarely flooded	Farmland of statewide importance	14.6	0.40%
MsC2	Muse channery silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance	12.5	0.30%
NhC	Nicholson silt loam, 6 to 12 percent slopes	Farmland of statewide importance	30.5	0.70%
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	Farmland of statewide importance	0.4	0.00%
La	Lawrence silt loam, 0 to 2 percent slopes	Prime farmland if drained	289.3	7.00%
Ma	McGary silt loam	Prime farmland if drained	156.6	3.80%
Ne	Newark silt loam, 0 to 3 percent slopes, occasionally flooded	Prime farmland if drained	73.4	1.80%
Bs	Boonesboro silt loam, frequently flooded	Prime farmland if managed (protected from flooding or not frequently flooded during the growing season)	19.8	0.50%
Total Prime Farmland Acreage			3,110.7	75.2%


Table 5-6 provides a summary of farming statistics in Fleming County and overall, in the State of Kentucky. The change in farming acreages from the 2012 to 2017 Census is also included.

Table 5-6 Farming Statistics for Fleming County, Kentucky							
	Number of Farms	% of Total Area in Farms	Land in Farms (Acres)	Average Size of Farms (Acres)	Change from 2012 to 2017		
					Number of Farms	Land in Farms (Acres)	Average Size of Farms (Acres)
Fleming County	1,013	76.3	171,481	95	-74	-11,718	-7
Kentucky	75,966	50.1	12,961,784	171	-1,098	-87,563	+2

Source: (USDA 2017)

Although the proposed actions within the Project Area would remove acreage of prime farmland from agricultural use for the life of the lease, the removal would not be permanent. At the end of the life of the proposed solar project, a decommissioning plan will be utilized to remove infrastructure and the Project Area can be returned to agricultural use. In the short term, the total removal amount of farmland is minor in comparison to the total acres of farmland in operation within Fleming County and the State of Kentucky.





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Prime Farmland

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5.4 Cultural Resources

Data from the Kentucky Office of State Archaeology (OSA) indicate that **six (6)** previous cultural resource surveys have been conducted within 1.5 miles of the Project Area, but not within (**Table 5-7**). These surveys are listed on **Figures 5-2.1** and **5-2.2** by State Historic Preservation Office (SHPO) ID.

SHPO ID	Title	Authors	Year
035-011	Phase I Archaeological Investigation of the Proposed Right of Way of KY 57 at Sleepy Run Creek, Fleming County, Kentucky	James P. Fenton and Karen E. Hudson	1995
035-027	A Cultural Reconnaissance of 3 Acres for the Wallingford Housing Project in Fleming County, Kentucky	Jack M. Schock	2003
035-047	Phase I Archaeological Survey of Two Proposed Wetlands in the Fleming Wildlife Management Area, Fleming County, Kentucky	Chad Knopf	2014
068-069	An Archaeological Survey of the Proposed KY 57 Bridge Replacement over the North fork of the Licking River in Fleming and Lewis Counties, Kentucky (Item No. 9-8507.00)	Brian Del Castello	2015
035-050	Phase I Archaeological Survey of Two Proposed Staging Areas and A Half-Mile Access Road in the Fleming Wildlife Management Area, Fleming County, Kentucky	Timothy Reynolds and Richard Stallings	2016
035-052	Phase I Archaeological Survey Kentucky Department of Fish and Wildlife Resources Ross Hollow Timber Harvest Staging Area and 1.3-Mile Access Road, Fleming Wildlife Management Area, Fleming County, Kentucky	J. David and John Hunter McBride	2018

In addition to the previously conducted surveys, **five (5)** archaeological sites were identified within 1.5 miles buffer of the Project Area, but not within (**Figures 5-2.1** and **5-2.2**). The archeological sites included three prehistoric sites, one historic site, and one site with both prehistoric and historic components (**Table 5-7**).

Site Number	Affiliation	Date	Type	NRHP Status
15FI4	Late Prehistoric, indeterminate	Not Recorded	Cemetery	Not Recorded
15FI82	Historic Euro-American	1801 - 1950	Historic farm / Residence	Not Assessed
15FI146	Prehistoric, indeterminate	Not Recorded	Open habitation without mounds	Not Assessed
15LW218	Prehistoric, indeterminate	Not Recorded	Open habitation without mounds	Not Assessed
15LW219	Prehistoric, Indeterminate; Historic Euro-American	1801 - 1900	Cemetery	Not Assessed

Furthermore, data provided by the Kentucky Heritage Council (KHC), indicate that **thirty-eight (38)** previously recorded above ground resources or structures are located within 1.5 miles of the Project Area. These include domestic, commercial and religious structures, as well as a campground and a dry-laid rock wall (**Table 5-8**). Of these resources, four (4) house structures (FL10, FL11, FL38, and FL41) are located within the Project Area. Structure FL41, the Abraham McGowan House, is listed on the National Register of Historic Places (NRHP). Structures FL10, FL11, and FL38 have not been evaluated for the NRHP. Additional survey will be necessary to determine potential eligibility.

Table 5-9 Structures within 1.5 miles of the Project Area

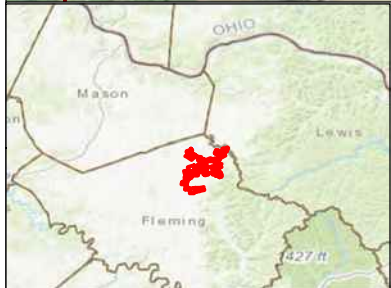
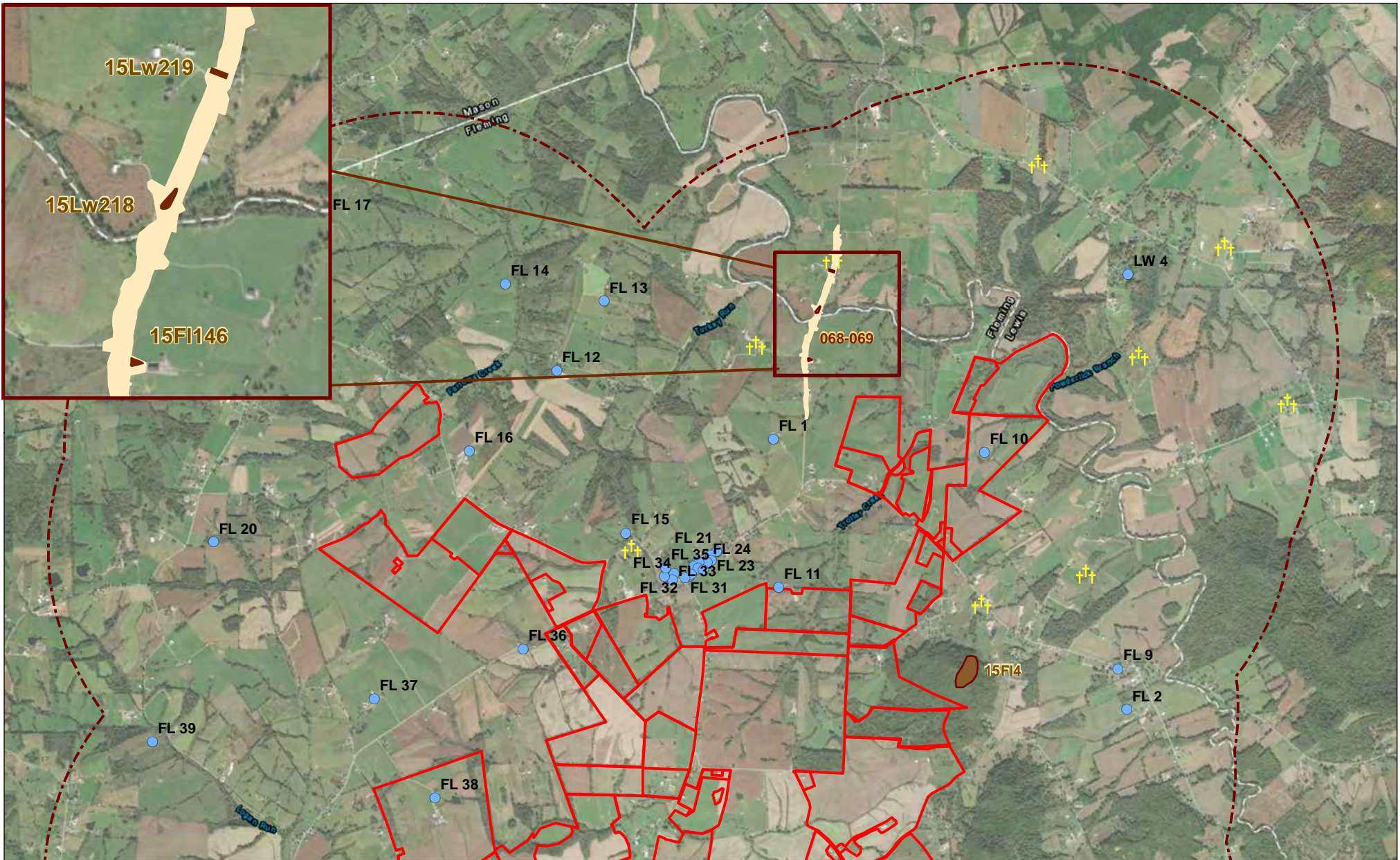
Site Number	Name	Date	Function	NRHP Status
FL 1	Faxworthy Property	1800-1824	Single Dwelling	Undetermined
FL 2	House	1800-1824	Single Dwelling	Undetermined
FL 9	Carpenter's Grocery	1875-1899	Commercial/Professional/Office – Unknown	Undetermined
FL 10*	House	1875-1899	Single Dwelling	Undetermined
FL 11*	Roscoe Miller House	1875-1899	Single Dwelling	Undetermined
FL 12	Denton House	1800-1824	Single Dwelling	Meets NR criteria
FL 13	Gardner House	1850-1874	Single Dwelling	Undetermined
FL 14	Annie Glascock House	1800-1824	Single Dwelling	Meets NR criteria
FL 15	House	1800-1824	Single Dwelling	Undetermined
FL 16	Corielly House	1800-1824	Single Dwelling	Undetermined
FL 17	Atherton House	1850-1874	Single Dwelling	Undetermined
FL 20	Turner House	1850-1874	Single Dwelling	Undetermined
FL 21	J W Henderson House	1875-1899	Single Dwelling	Undetermined
FL 22	Esham House	1850-1874	Single Dwelling	Undetermined
FL 23	Alfred Luman House	1875-1899	Single Dwelling	Undetermined
FL 24	Hamilton House	1800-1824	Single Dwelling	Undetermined
FL 25	Banner House	1850-1874	Single Dwelling	Undetermined
FL 26	Hinton Store	1875-1899	Commercial/ Professional/ Office - Unknown	Undetermined
FL 27	House	1875-1899	Single Dwelling	Undetermined
FL 28	Commercial Building	1875-1899	Commercial/ Professional/	Undetermined
FL 29	Crump House	1850-1874	Single Dwelling	Undetermined
FL 30	General Store	1875-1899	Commercial/ Professional	Undetermined
FL 31	Hotel	1850-1874	Hotel/Inn	Demolished in 1977
FL 32	Clark House	1825-1849	Single Dwelling	Undetermined
FL 33	Banyon-Muse House	1850-1874	Single Dwelling	Undetermined
FL 34	Mt Carmel Christian Church	1875-1899	Religious - Unknown	Undetermined
FL 35	House	1850-1874	Single Dwelling	Undetermined
FL 36	Newt-Porter House	1850-1874	Single Dwelling	Meets NR criteria
FL 37	Foxworthy House	1825-1849	Single Dwelling	Undetermined
FL 38*	Wallingsford House	1800-1824	Single Dwelling	Undetermined
FL 39	Benjamin Fitzgerald House	1800-1824	Single Dwelling	Meets NR criteria
FL 40	Hooper House	1850-1874	Single Dwelling	Undetermined

FL 41*	Abraham McGowan House	1825-1849	Single Dwelling	National Register
FL 42	Belt House	1800-1824	Single Dwelling	Undetermined
FL 52	Floyd Jordan House	1875-1899	Single Dwelling	Meets NR criteria
FL 56	Triplett Farm	1800-1824	Single Dwelling	Undetermined
FL 57	Belt House	1850-1874	Single Dwelling	Undetermined
FL 329	Dry-laid Rock Wall		Linear Resource	Undetermined
LW 4	Ruggles Campground	1850-1874	Parks/ Landscape/ Open Space - Unknown	Undetermined

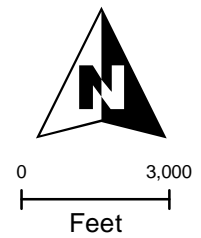
NRHP listed Abraham McGowan House has a defined boundary that encapsulates the property to ensure its historic character (**Figure 5-2.2**). It is highly recommended that as the project is developed that this boundary be avoided, as any impact within its boundary would be considered an adverse effect to the historic property. Additional screening may be necessary to mitigate any viewshed impacts to the resource.

In addition to the OSA and KHC data, historic maps and other resources were consulted to identify any cemeteries within the Project Area. **Ten (10)** historic cemeteries are mapped within 1.5 miles of the Project Area (**Figures 5-2.1 and 5-2.2**). None are located within the Project Area, and none are expected to be affected by the proposed solar facility.

While few sites have been recorded within the context of the Project Area, it is assumed that this is representative of the lack of previous archaeological surveys than a lack of archeological sites. The Central Bluegrass Region of Kentucky contains numerous archaeological sites, and it is expected that undocumented archaeological sites exist within the boundaries of the Project Area. If there is a need to acquire federal permits before the Project can commence, the KHC may request that a Phase I survey be conducted due to fact that the potential exists for additional sites to exist within the Project Area and the presence of potentially NRHP eligible sites in proximity to the Project Area.



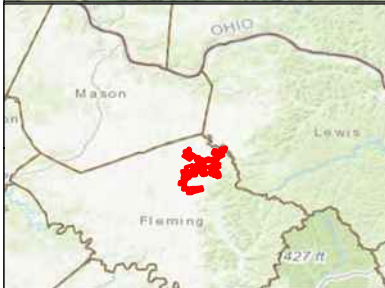
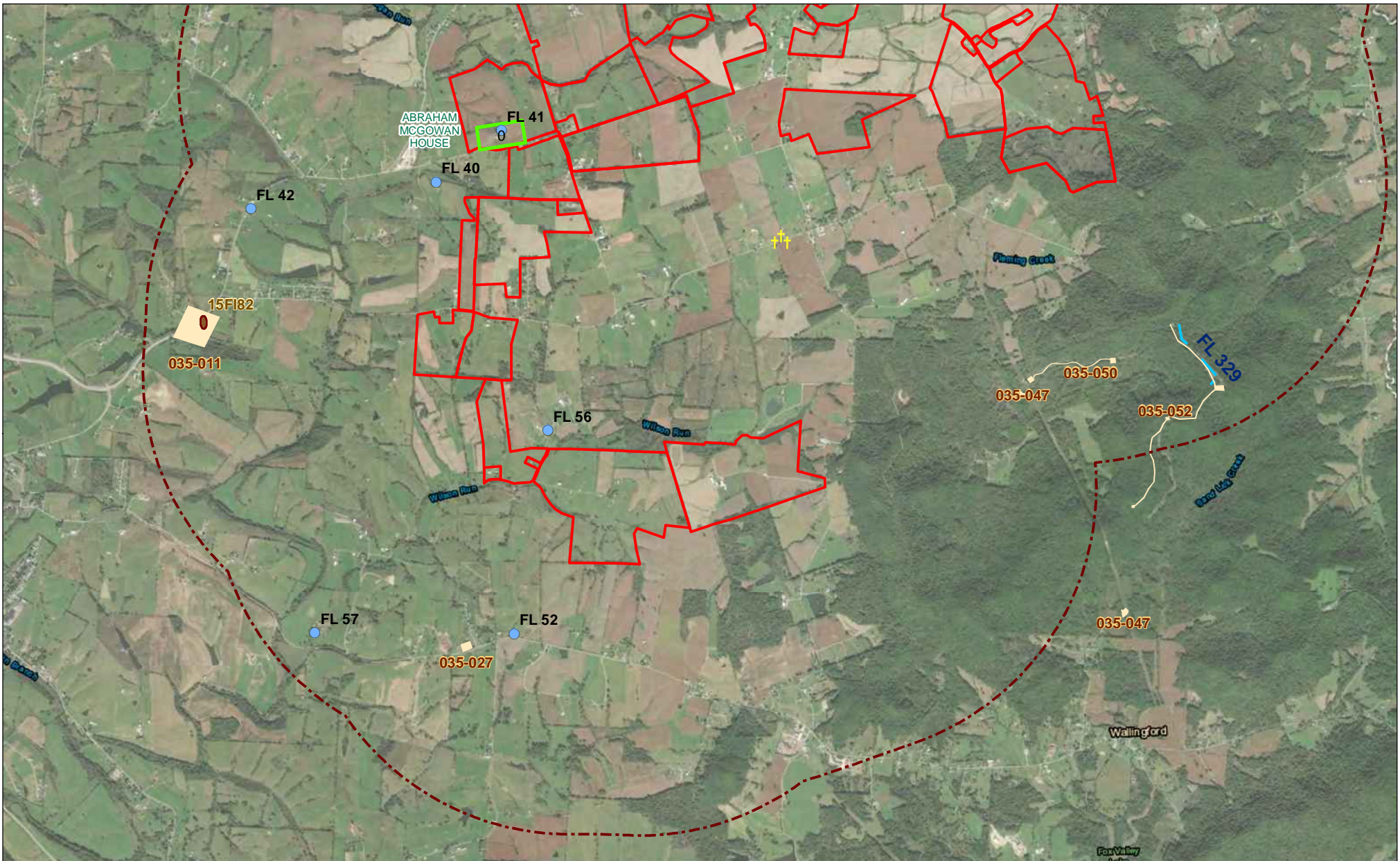
- 1.5-mile Buffer
- Previous Cultural Surveys
- Archaeological Sites
- Historic Structures
- †† Cemetery
- KHC NRHP Boundary
- KHC Linear Resources
- Project Area



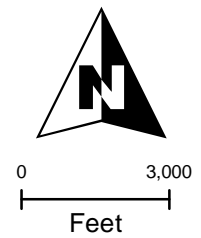
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- 1.5-mile Buffer
- Previous Cultural Surveys
- Archaeological Sites
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- KHC NRHP Boundary
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Cultural Resources

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6 Conclusion

Cardno was contracted by Recurrent to conduct an environmental resource assessment for proposed solar project referenced as Hummingbird Solar in Fleming County, Kentucky. The Project was surveyed by Cardno in December 2021. The tasks performed as part of this environmental assessment included reviews of T&E species, vegetation assessments and a delineation of WOTUS. The results are summarized below.

There are **ten (10)** federally listed threatened or endangered species with the potential to occur within or be affected by the Project: Indiana bat, northern long-eared bat, gray bat, pink mucket, snuffbox mussel, fanshell, northern riffleshell, sheepnose, Virginia spiraea and Short's goldenrod. The potential exists for listed mollusks to occur within the Project Area due to habitat present within perennial streams that flow through the Project Area. If impacts to the perennial streams are anticipated, a recommendation of formal presence/absence surveys may be requested by USFWS. A thorough bat habitat survey was conducted to determine the potential for habitat within the Project Area. Two trees within riparian corridors that could potentially be reliable roosting trees were identified within the Project Area.

Approximately 75% of the mapped soils within the Project Area are classified as prime farmland or farmlands of statewide importance.

One hundred and two (102) streams were determined to have direct nexus to the traditionally navigable water (TNW) the Ohio River. **Thirty-eight (38)** of the delineated wetlands exhibited overland hydrological connection to potentially jurisdictional stream features. Therefore, it is Cardno's opinion that streams with significant nexus to the Ohio River and wetlands with hydrological connectivity to stream features could be considered jurisdictional under United States Army Corps of Engineers (USACE) guidance.

Approximately 161.43 acres of the Project Area falls within the 100-year floodplain, concentrated along North Fork Licking River. Therefore, a development permit is necessary if alterations to the floodplain are expected to construct the proposed Project.

Six (6) previous cultural resource surveys, **five (5)** previously recorded archaeological sites, **ten (10)** historic cemeteries and **thirty-eight (38)** historical structures were identified within 1.5 miles of the Project Area. One (1) of the identified structures, the Abraham McGowan House, is listed on the National Register of Historic Places (NRHP), located within the Project Area in the western portion. Other structures have the potential to be listed under the NRHP and it is expected that undocumented archaeological sites exist within the boundaries of the Project Area. If there is a need to acquire federal permits before the Project can commence, the KHC may request that a Phase I survey be conducted due to fact that the potential exists for additional sites to exist within the Project Area and the presence of potentially NRHP eligible sites in proximity to the Project Area.

7 References

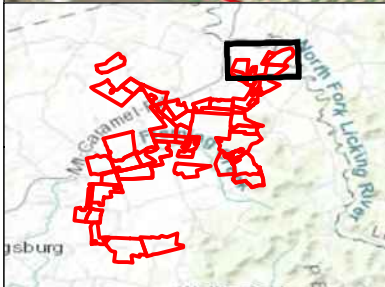
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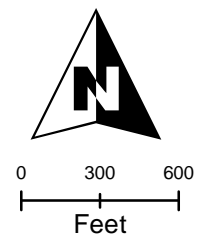
APPENDIX

A

FIELD DELINEATION MAPPING



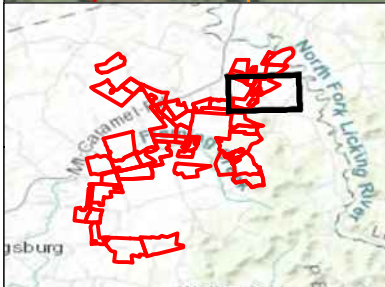
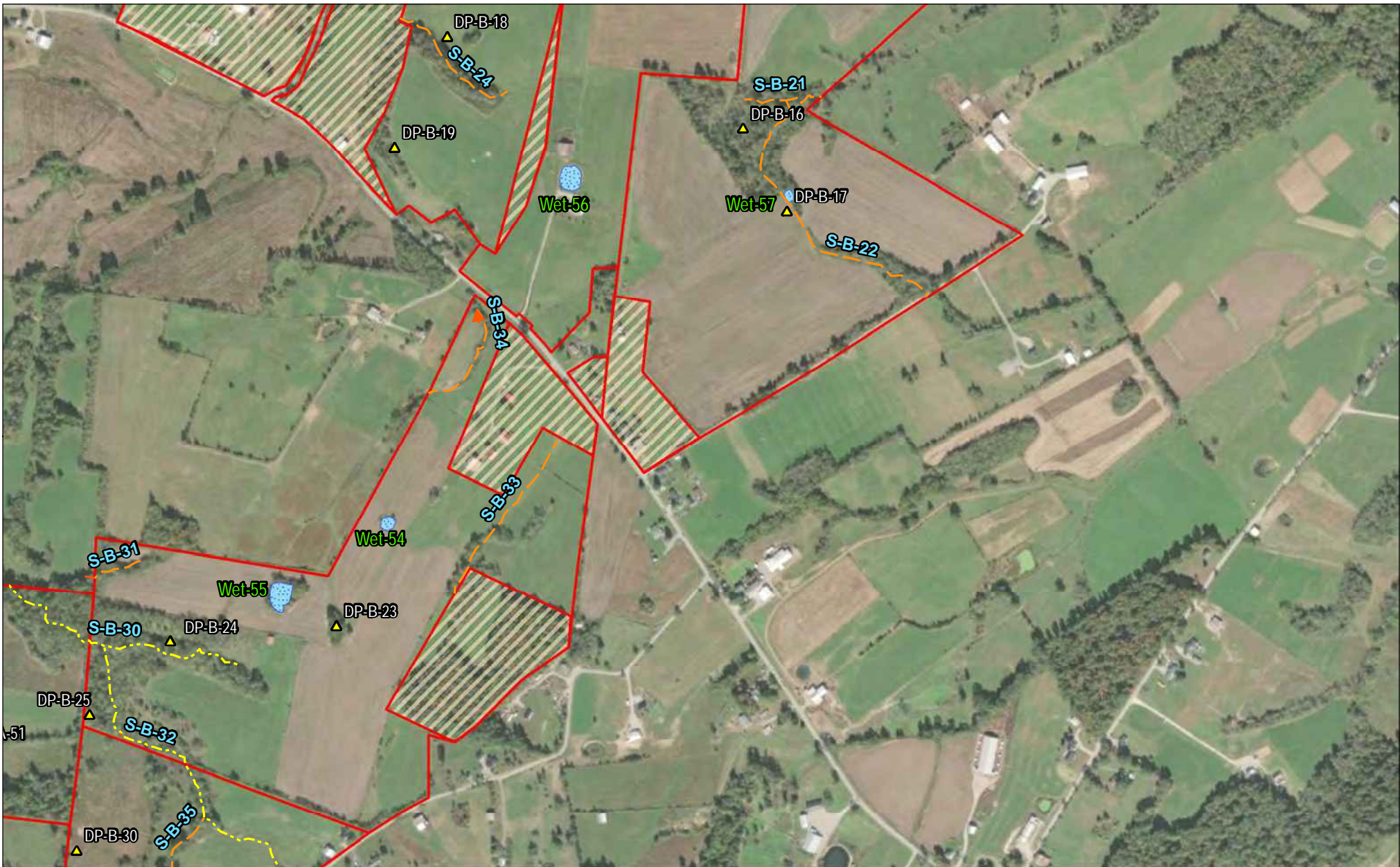
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- ▭ Project Area



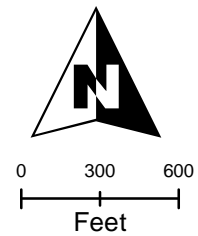
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Delineated Wetlands and Waterbodies

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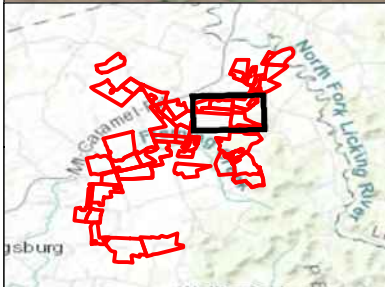
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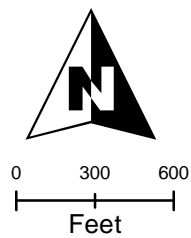
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Delineated Wetlands and Waterbodies

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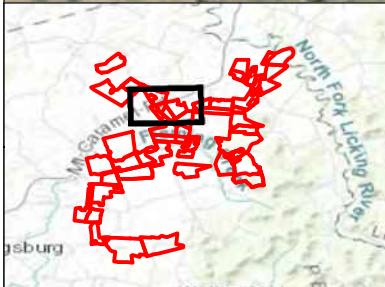
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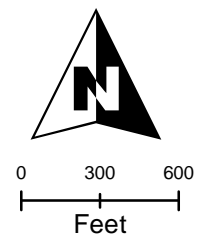
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Delineated Wetlands and Waterbodies

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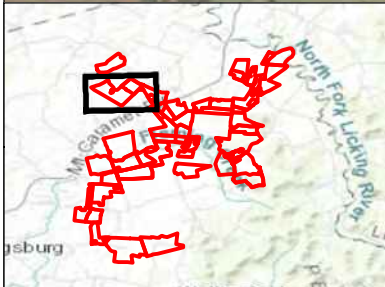
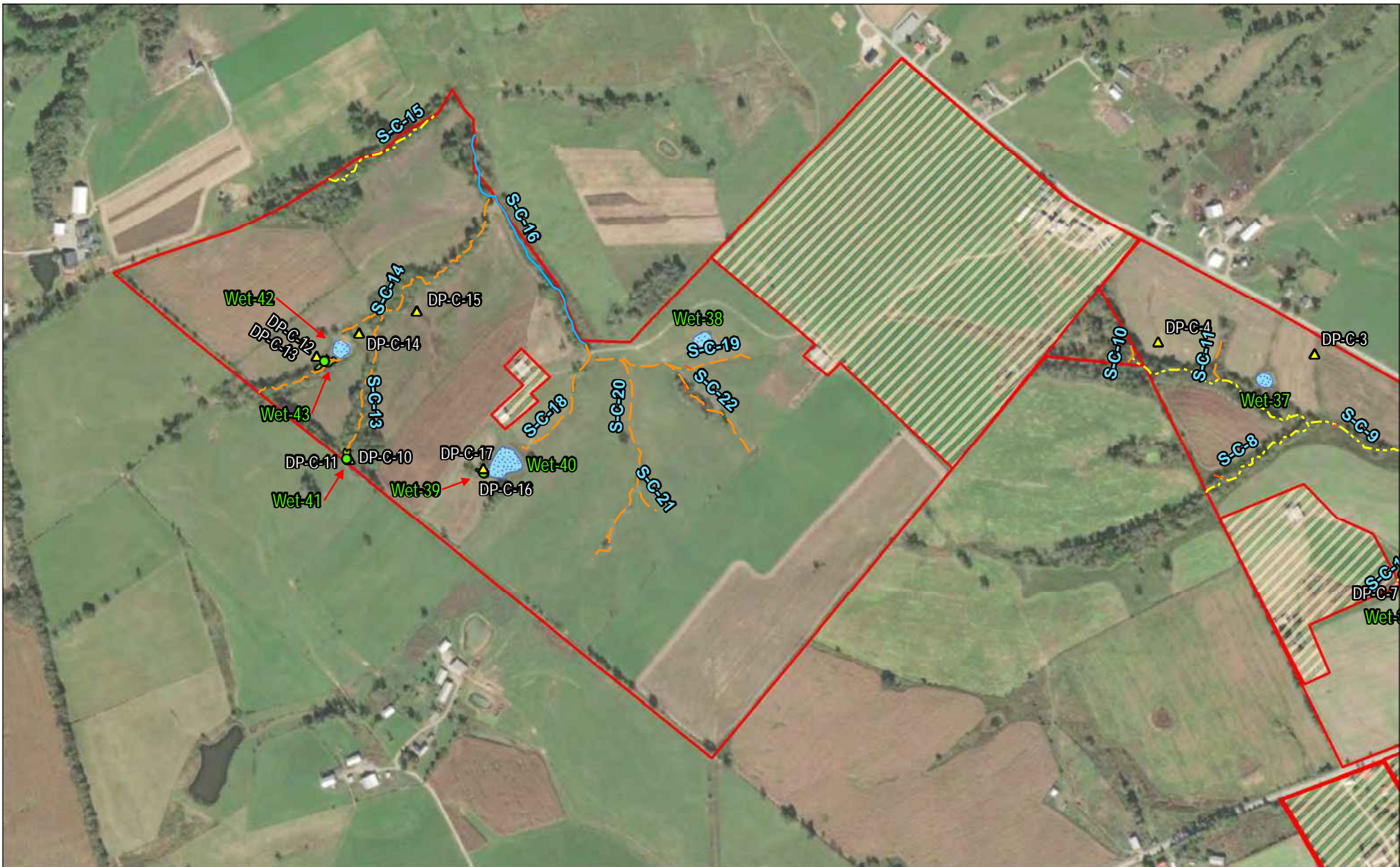
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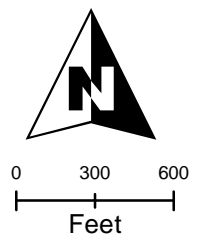
Hummingbird Energy LLC Solar Project
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Fleming and Mason County, Kentucky

Delineated Wetlands and Waterbodies

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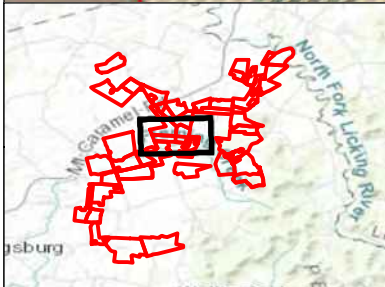
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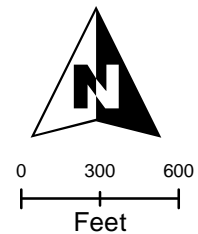
Hummingbird Energy LLC Solar Project
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Delineated Wetlands and Waterbodies

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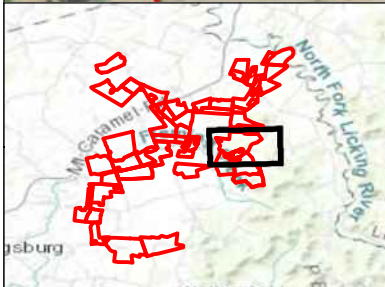
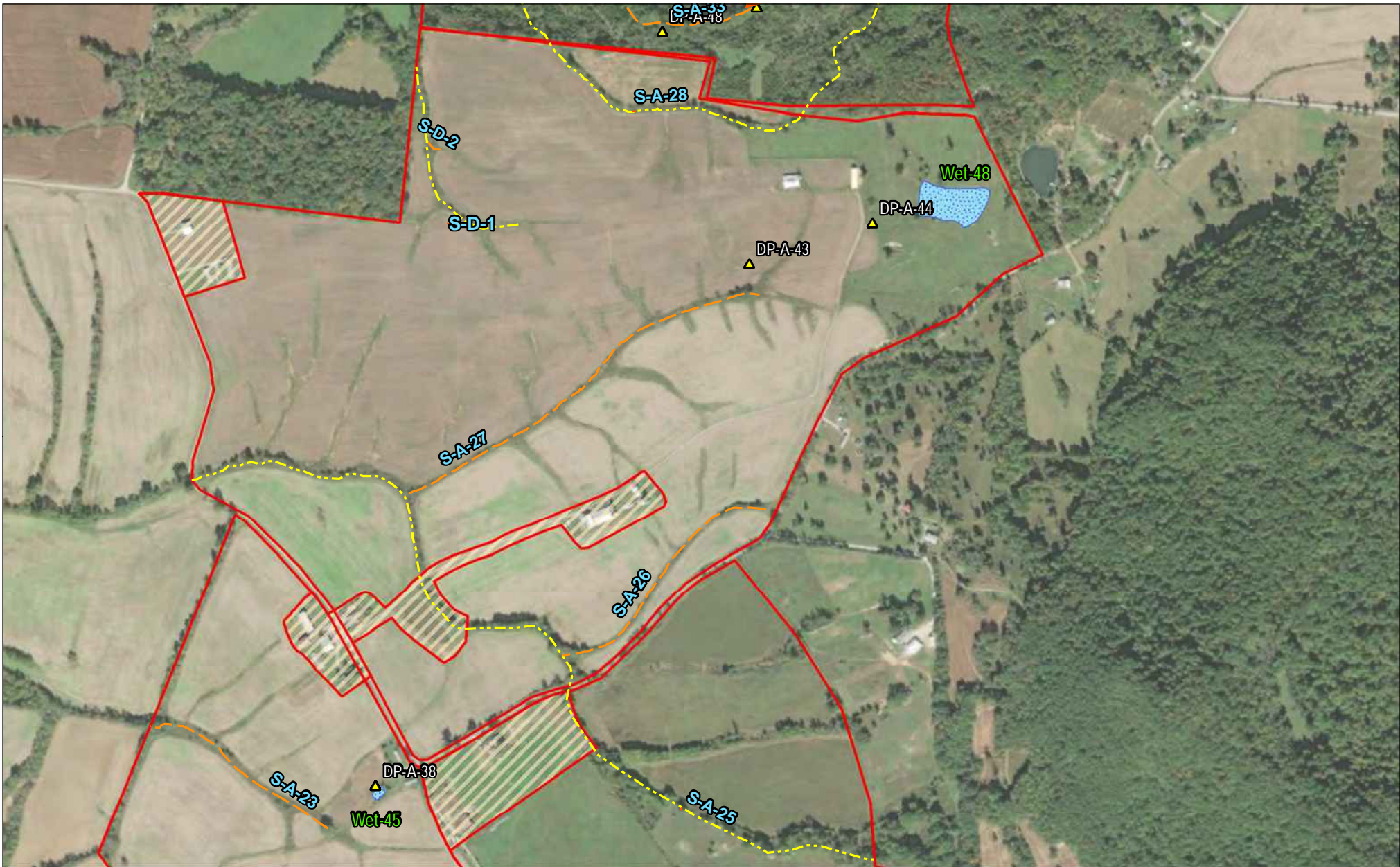
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- Excluded Parcels (No Access)
- Project Area



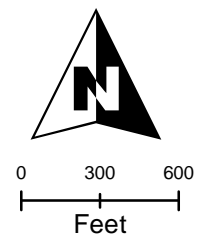
Hummingbird Energy LLC Solar Project
Environmental Resource Assessment
Fleming and Mason County, Kentucky

Delineated Wetlands and Waterbodies

Date: April 2023	Project No: E320201701	Figure No: A- 7
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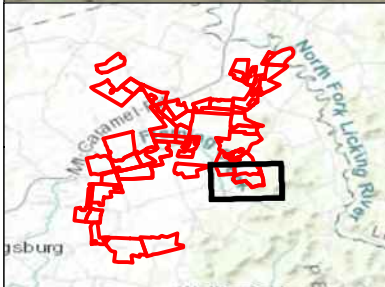
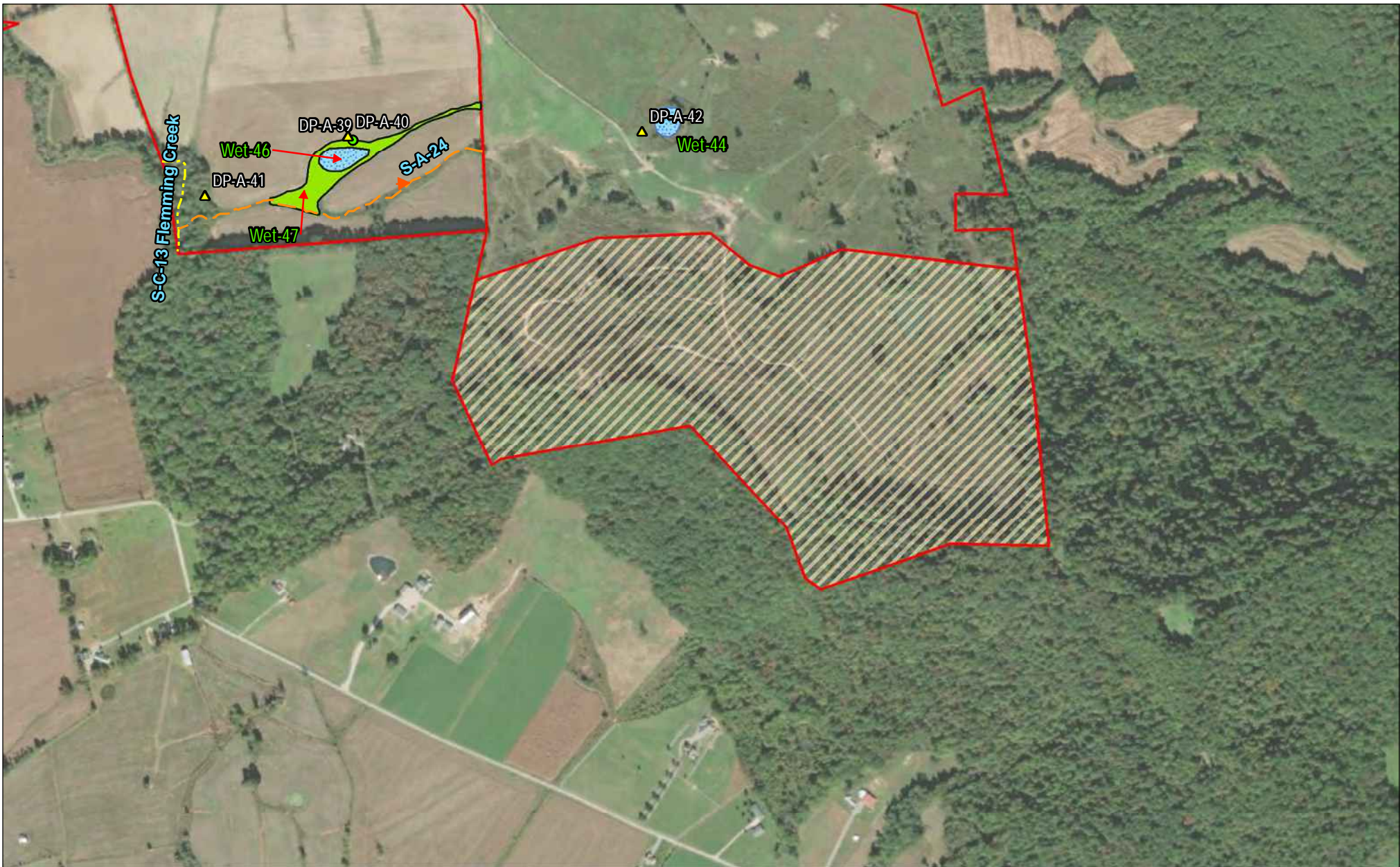
- ▲ Upland Datapoint
- Wetland Datapoint
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PUB Pond
- Excluded Parcels (No Access)
- Project Area



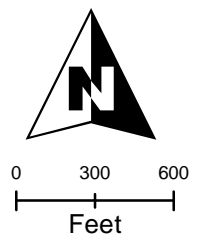
Hummingbird Energy LLC Solar Project
Environmental Resource Assessment
Fleming and Mason County, Kentucky

Delineated Wetlands and Waterbodies

Date: April 2023	Project No: E320201701	Figure No: A-	8
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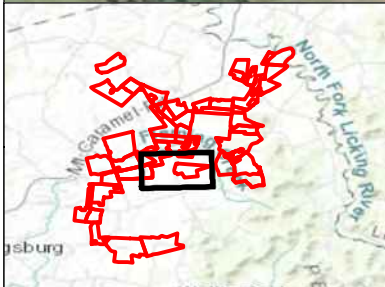
- ▲ Upland Datapoint
- Wetland Datapoint
- Ephemeral Stream
- - - Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PUB Pond
- ▨ Excluded Parcels (No Access)
- ▭ Project Area



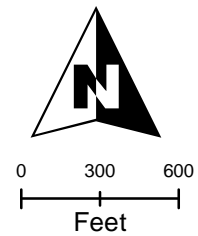
Hummingbird Energy LLC Solar Project
Environmental Resource Assessment
Fleming and Mason County, Kentucky

Delineated Wetlands and Waterbodies

Date: April 2023	Project No: E320201701	Figure No: A-
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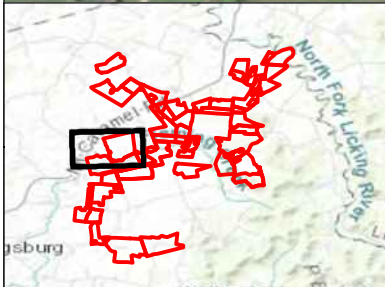
- ▲ Upland Datapoint
- Wetland Datapoint
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PUB Pond
- Excluded Parcels (No Access)
- Project Area



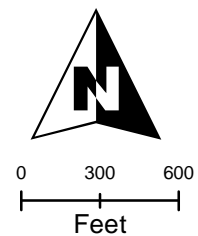
Hummingbird Energy LLC Solar Project
Environmental Resource Assessment
Fleming and Mason County, Kentucky

Delineated Wetlands and Waterbodies

Date: April 2023	Project No: E320201701	Figure No: A- 10
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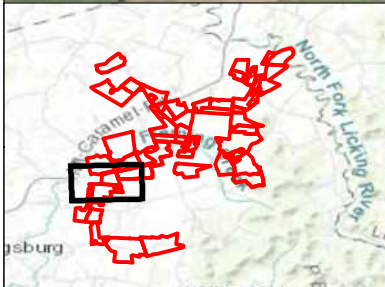
- ▲ Upland Datapoint
- Wetland Datapoint
- Ephemeral Stream
- - - Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PUB Pond
- ▨ Excluded Parcels (No Access)
- Project Area



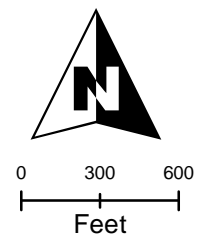
Hummingbird Energy LLC Solar Project
 Environmental Resource Assessment
 Fleming and Mason County, Kentucky

Delineated Wetlands and Waterbodies

Date: April 2023	Project No: E320201701	Figure No: A- 11
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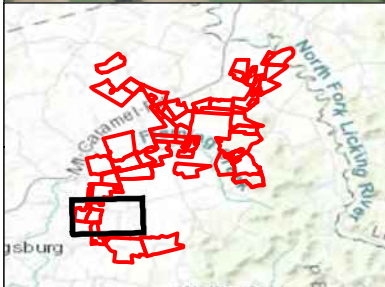
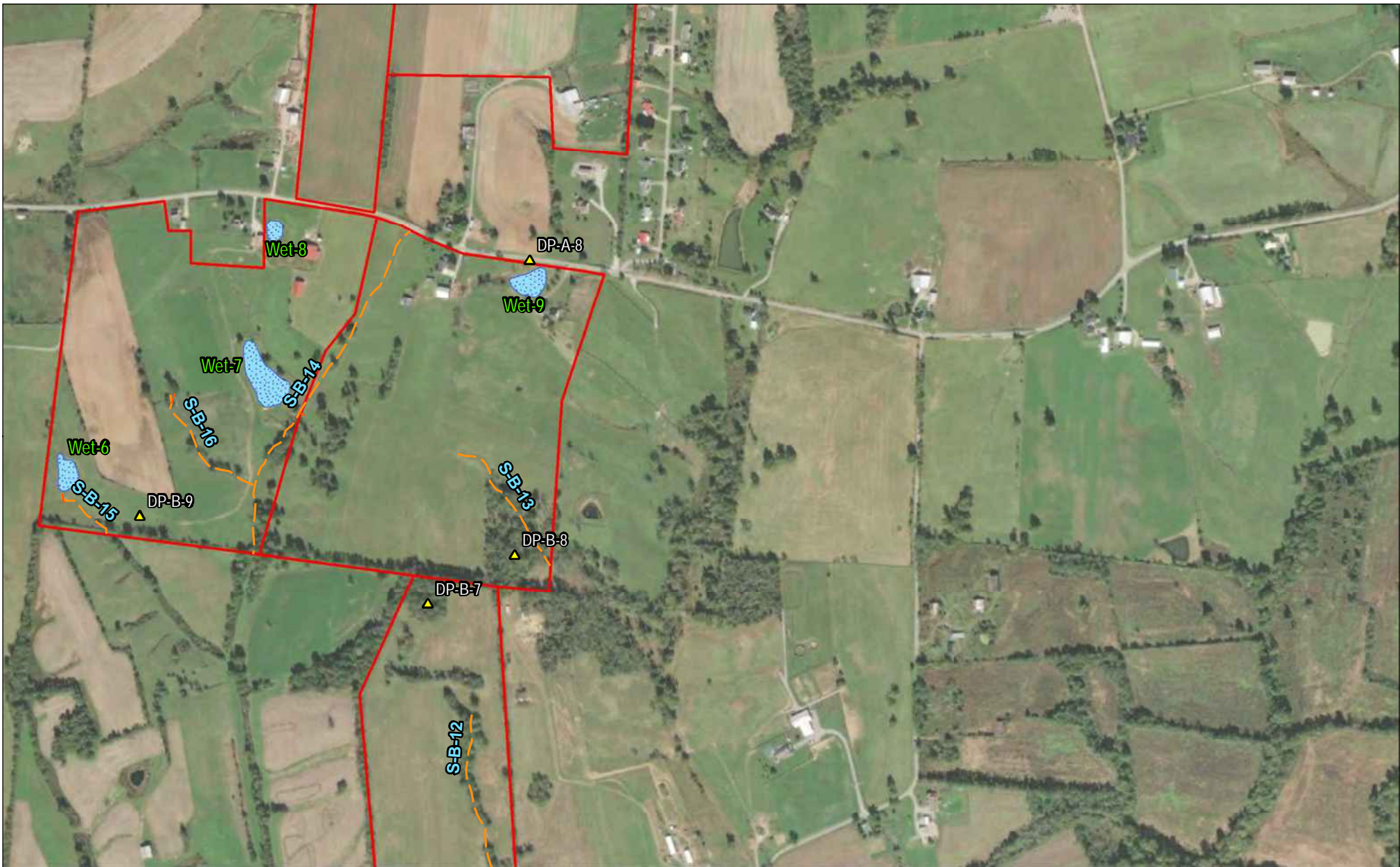
- ▲ Upland Datapoint
- Wetland Datapoint
- Ephemeral Stream
- - - Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PUB Pond
- ▨ Excluded Parcels (No Access)
- ▭ Project Area



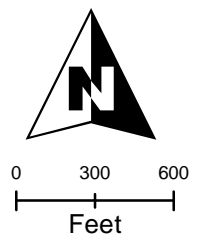
Hummingbird Energy LLC Solar Project
Environmental Resource Assessment
Fleming and Mason County, Kentucky

Delineated Wetlands and Waterbodies

Date: April 2023	Project No: E320201701	Figure No: A- 12
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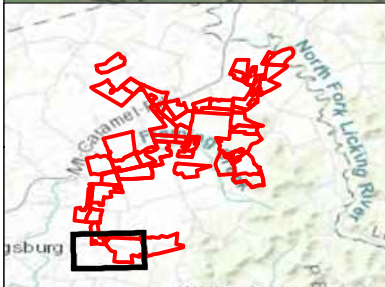
- ▲ Upland Datapoint
- Wetland Datapoint
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PUB Pond
- Excluded Parcels (No Access)
- Project Area



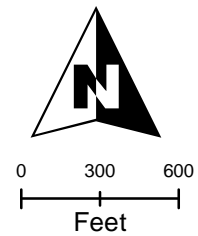
Hummingbird Energy LLC Solar Project
Environmental Resource Assessment
Fleming and Mason County, Kentucky

Delineated Wetlands and Waterbodies

Date: April 2023	Project No: E320201701	Figure No: A-
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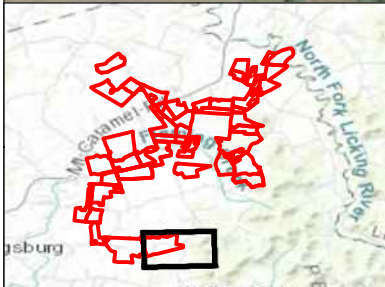
- ▲ Upland Datapoint
- Wetland Datapoint
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PUB Pond
- Excluded Parcels (No Access)
- Project Area



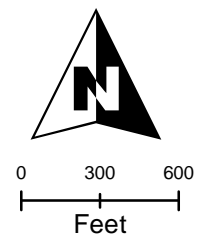
Hummingbird Energy LLC Solar Project
Environmental Resource Assessment
Fleming and Mason County, Kentucky

Delineated Wetlands and Waterbodies

Date: April 2023	Project No: E320201701	Figure No: A- 14
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- ▲ Upland Datapoint
- Wetland Datapoint
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PUB Pond
- Excluded Parcels (No Access)
- Project Area



Hummingbird Energy LLC Solar Project
Environmental Resource Assessment
Fleming and Mason County, Kentucky

Delineated Wetlands and Waterbodies

Date: April 2023	Project No: E320201701	Figure No: A-	15
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APPENDIX

B

PHOTOGRAPHIC LOG

Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
1

Date:
12/07/2021

Coordinates:
38.425800, -83.643000

Description:
View of PUB(x) wetland,
Wet-01 at DP-B-1



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
2

Date:
12/07/2021

Coordinates:
38.428320, -83.658300

Description:
View of PUB(x) wetland,
Wet-02.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
3

Date:
12/07/2021

Coordinates:
38.424830, -83.657500

Description:
View of PUB(x) wetland,
Wet-03.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
4

Date:
12/07/2021

Coordinates:
38.425990, -83.660700

Description:
View of PUB(x) wetland,
Wet-04.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
5

Date:
12/07/2021

Coordinates:
38.427760, -83.672500

Description:
View of PUB(x) wetland,
Wet-05 at DP-B-6.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
6

Date:
12/07/2021

Coordinates:
38.437170, -83.681200

Description:
View of PUB(x) wetland,
Wet-06.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
7

Date:
12/07/2021

Coordinates:
38.438700, -83.677500

Description:
View of PUB(x) wetland,
Wet-07.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
8

Date:
12/07/2021

Coordinates:
38.440940, -83.677300

Description:
View of PUB(x) wetland,
Wet-08 at DP-A-8.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
9

Date:
12/07/2021

Coordinates:
38.440260, -83.672400

Description:
View of PUB(x) wetland,
Wet-09 at DP-A-8.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
10

Date:
12/07/2021

Coordinates:
38.445990, -83.673600

Description:
View of PEM wetland,
Wet-10 at DP-A-10.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
11

Date:
12/07/2021

Coordinates:
38.445570, -83.673300

Description:
View of PUB(x) wetland,
Wet-11 at DP-A-9.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
12

Date:
12/07/2021

Coordinates:
38.447720, -83.667600

Description:
View of PUB(x) wetland,
Wet-12 at DP-A-14.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
13

Date:
12/07/2021

Coordinates:
38.44849, -83.6651

Description:
View of PEM wetland,
Wet-13 at DP-A-15.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
14

Date:
12/07/2021

Coordinates:
38.45244, -83.668

Description:
View of PUB wetland,
Wet-14 at DP-1



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
15

Date:
12/07/2021

Coordinates:
38.453380, -83.671000

Description:
View of PEM wetland,
Wet-16 at DP-A-2.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
16

Date:
12/07/2021

Coordinates:
38.454870, -83.669600

Description:
View of PEM wetland,
Wet-17 at DP-A-6



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
17

Date:
12/07/2021

Coordinates:
38.457370, -83.669400

Description:
View of PEM wetland,
Wet-18 at DP-A-4



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
18

Date:
12/07/2021

Coordinates:
38.456730, -83.665600

Description:
View of PEM wetland,
Wet-19 at DP-A-28



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
19

Date:
12/08/2021

Coordinates:
34.569400, -83.65880

Description:
View of PUB(x) wetland,
Wet-20 at DP-A-29



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
20

Date:
12/08/2021

Coordinates:
38.466670, -83.667800

Description:
View of PUB wetland,
Wet-21.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
21

Date:
12/07/2021

Coordinates:
38.466490, -83.662400

Description:
View of PUB(x) wetland,
Wet-22 at DP-A-17



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
22

Date:
12/07/2021

Coordinates:
38.465210, -83.661300

Description:
View of PUB(x) wetland,
Wet-23 at DP-A-19.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
23

Date:
12/07/2021

Coordinates:
38.464670, -83.663200

Description:
View of PUB(x) wetland,
Wet-24 at DP-A-22.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
24

Date:
12/07/2021

Coordinates:
38.463310, -83.661700

Description:
View of PEM wetland,
Wet-25 at DP-A-20.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
25

Date:
12/07/2021

Coordinates:
38.462380, -83.664000

Description:
View of PEM wetland,
Wet-26 at DP-A-23.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
26

Date:
12/07/2021

Coordinates:
38.463920, -83.668900

Description:
View of PEM wetland,
Wet-27 at DP-A-25.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
27

Date:
12/07/2021

Coordinates:
38.462190, -83.639700

Description:
View of PUB(x) wetland,
Wet-28 at DP-A-37.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
28

Date:
12/08/2021

Coordinates:
38.461760, -83.639700

Description:
View of PEM wetland,
Wet-29 at DP-A-34.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
29

Date:
12/08/2021

Coordinates:
38.471050, -83.643100

Description:
View of PEM wetland,
Wet-30 at DP-C-24.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
30

Date:
12/09/2021

Coordinates:
38.469580, -83.639300

Description:
View of PEM wetland,
Wet-31 at DP-C-22.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
31

Date:
12/09/2021

Coordinates:
38.472190, -83.639900

Description:
View of PFO wetland,
Wet-32 at DP-C-16.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
32

Date:
12/08/2021

Coordinates:
38.470930, -83.639700

Description:
View of PUB(x) wetland,
Wet-33 at DP-C-18.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
33

Date:
12/09/2021

Coordinates:
38.478830, -83.646300

Description:
View of PUB(x) wetland,
Wet-34.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
34

Date:
12/08/2021

Coordinates:
38.483030, -83.650300

Description:
View of PEM wetland,
Wet-35 at DP-C-7.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
35

Date:
12/08/2021

Coordinates:
38.483040, -83.647300

Description:
View of PEM wetland,
Wet-36 at DP-C-5.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
36

Date:
12/08/2021

Coordinates:
38.485890, -83.653100

Description:
View of PUB(x) wetland,
Wet-37.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
37

Date:
12/07/2021

Coordinates:
38.486240, -83.663900

Description:
View of PUB(x) wetland,
Wet-38.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
38

Date:
12/08/2021

Coordinates:
38.484150, -83.668100

Description:
View of PEM wetland,
Wet-39 at DP-C-16



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
39

Date:
12/08/2021

Coordinates:
38.48430, -83.667700

Description:
View of PUB(x) wetland,
Wet-40 at DP-C-4.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
40

Date:
12/08/2021

Coordinates:
38.484350, -83.670700

Description:
View of PEM wetland,
Wet-41 at DP-C-10.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
41

Date:
12/08/2021

Coordinates:
38.485960, -83.670900

Description:
View of PUB(x) wetland,
Wet-42 at DP-C-14.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
42

Date:
12/08/2021

Coordinates:
38.485750, -83.671100

Description:
View of PEM wetland,
Wet-43 at DP-C-12.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
43

Date:
12/08/2021

Coordinates:
38.456040, -83.617100

Description:
View of PUB(x) wetland,
Wet-44 at DP-A-42.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
44

Date:
12/08/2021

Coordinates:
38.458830, -83.622800

Description:
View of PUB(x) wetland,
Wet-45 at DP-A-38.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
45

Date:
12/08/2021

Coordinates:
38.455340, -83.623400

Description:
View of PUB wetland,
Wet-46 at DP-A-40.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
46

Date:
12/08/2021

Coordinates:
38.455180, -83.623400

Description:
View of PEM wetland,
Wet-47 at DP-A-39



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
47

Date:
12/08/2021

Coordinates:
38.468000, -83.612100

Description:
View of PUB(x) wetland,
Wet-48 at DP-A-44.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
48

Date:
12/08/2021

Coordinates:
38.474960, -83.620000

Description:
View of PEM wetland,
Wet-49 at DP-B-35.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
49

Date:
12/09/2021

Coordinates:
38.476290, -83.618800

Description:
View of PEM wetland,
Wet-50 at DP-B-26.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
50

Date:
12/09/2021

Coordinates:
38.476510, -83.619000

Description:
View of PUB(x) wetland,
Wet-51 at DP-B-26.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
51

Date:
12/09/2021

Coordinates:
38.477000, -83.620400

Description:
View of PFO wetland,
Wet-52 at DP-B-28.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
52

Date:
12/09/2021

Coordinates:
38.480470, -83.627500

Description:
View of PUB(x) wetland,
Wet-53 at DP-A-50.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
53

Date:
12/09/2021

Coordinates:
38.483340, -83.615600

Description:
View of PUB(x) wetland,
Wet-54.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

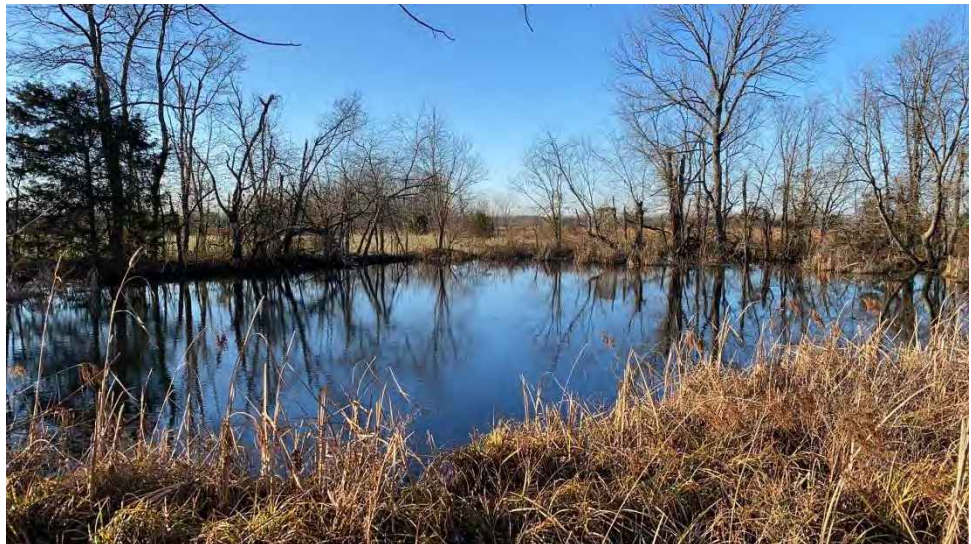
Project No.
E320201702

Photo No.
54

Date:
12/08/2021

Coordinates:
38.482210, -83.617600

Description:
View of PUB(x) wetland,
Wet-55.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
55

Date:
12/08/2021

Coordinates:
38.488650, -83.612300

Description:
View of PUB(x) wetland,
Wet-56.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
56

Date:
12/09/2021

Coordinates:
38.488480, -83.608100

Description:
View of PUB(x) wetland,
Wet-57 at DP-B-17.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
57

Date:
12/08/2021

Coordinates:
38.492030, -83.607300

Description:
View of PUB(x) wetland,
Wet-58.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
58

Date:
12/07/2021

Coordinates:
38.496140, -83.605100

Description:
View of PUB(x) wetland,
Wet-59.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
59

Date:
12/08/2021

Coordinates:
38.499150, -83.603900

Description:
View of PEM wetland,
Wet-60 at DP-B-13.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
60

Date:
12/08/2021

Coordinates:
38.427080, -83.661800

Description:
View of PUB(x) wetland,
Wet-61.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
61

Date:
12/07/2021

Coordinates:
38.430370, -83.644700

Description:
View of PEM wetland,
Wet-62.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
62

Date:
12/07/2021

Coordinates:
38.450320, -83.671220

Description:
Upstream view of
intermittent stream S-A-1.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
63

Date:
12/07/2021

Coordinates:
38.459890, -83.670350

Description:
Upstream view of
ephemeral stream S-A-2.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
64

Date:
12/07/2021

Coordinates:
38.423295, -83.660539

Description:
Downstream view of
ephemeral stream S-A-3.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
65

Date:
12/07/2021

Coordinates:
38.448640, -83.667450

Description:
Upstream view of
ephemeral stream S-A-4.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
66

Date:
12/07/2021

Coordinates:
38.446260, -83.673720

Description:
Downstream view of
intermittent stream S-A-5.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
67

Date:
12/07/2021

Coordinates:
38.466480, -83.661130

Description:
Upstream view of
intermittent stream S-A-6.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
68

Date:
12/07/2021

Coordinates:
34.796860, -87.027110

Description:
Upstream view of
perennial stream S-A-7.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
69

Date:
12/07/2021

Coordinates:
38.468380, -83.668200

Description:
Downstream view of
intermittent stream S-A-8.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
70

Date:
12/07/2021

Coordinates:
38.464520, -83.668680

Description:
Upstream view of
intermittent stream S-A-9.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
71

Date:
12/07/2021

Coordinates:
38.465950, -83.668660

Description:
Downstream view of
ephemeral stream S-A-10.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
72

Date:
12/07/2021

Coordinates:
38.457620, -83.665920

Description:
Upstream view of
intermittent stream S-A-11.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
73

Date:
12/08/2021

Coordinates:
38.458110, -83.661800

Description:
Downstream view of
intermittent stream S-A-
12.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
74

Date:
12/08/2021

Coordinates:
38.459040, -83.660880

Description:
Downstream view of
intermittent stream S-A-
13.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
75

Date:
12/08/2021

Coordinates:
38.460250, -83.660380

Description:
Downstream view of perennial stream S-A-14, Fleming Creek.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
76

Date:
12/08/2021

Coordinates:
38.460970, -83.65840

Description:
Downstream view of perennial stream S-A-15.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
77

Date:
12/08/2021

Coordinates:
38.423672, -83.662602

Description:
Upstream view of
ephemeral stream S-A-16.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
78

Date:
12/07/2021

Coordinates:
38.458960, -83.653180

Description:
Upstream view of
intermittent stream S-A-17.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
79

Date:
12/08/2021

Coordinates:
38.455580, -83.637740

Description:
Downstream view of
ephemeral stream S-A-18.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
80

Date:
12/08/2021

Coordinates:
38.456690, -83.643250

Description:
Upstream view of
ephemeral stream S-A-19.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
81

Date:
12/08/2021

Coordinates:
38.460900, -83.637140

Description:
Upstream view of
ephemeral stream S-A-20.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
82

Date:
12/08/2021

Coordinates:
38.460870, -83.637160

Description:
Downstream view of
ephemeral stream S-A-21.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
83

Date:
12/08/2021

Coordinates:
38.464530, -83.638750

Description:
Upstream view of
ephemeral stream S-A-22.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
84

Date:
12/08/2021

Coordinates:
38.458250, -83.623680

Description:
Upstream view of
ephemeral stream S-A-23.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
85

Date:
12/08/2021

Coordinates:
38.454480, -83.623630

Description:
Downstream view of
ephemeral stream S-A-24.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
86

Date:
12/08/2021

Coordinates:
38.460460, -83.619170

Description:
Upstream view of
intermittent stream S-A-25.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
87

Date:
12/08/2021

Coordinates:
38.463160, -83.616450

Description:
Upstream view of
ephemeral stream S-A-26.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
88

Date:
12/08/2021

Coordinates:
38.464984, -83.619147

Description:
Upstream view of
ephemeral stream S-A-27.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
89

Date:
12/08/2021

Coordinates:
38.469333, -83.617092

Description:
Upstream view of
intermittent stream S-A-
28.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
90

Date:
12/08/2021

Coordinates:
38.476658, -83.640632

Description:
Upstream view of
intermittent stream S-A-
29.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
91

Date:
12/08/2021

Coordinates:
38.48099, -83.646403

Description:
Downstream view of
intermittent stream S-A-
30A.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
92

Date:
12/08/2021

Coordinates:
38.475895, -83.640111

Description:
Downstream view of
ephemeral stream S-A-31.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
93

Date:
12/08/2021

Coordinates:
38.474111, -83.643720

Description:
Upstream view of
ephemeral stream S-A-32.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
94

Date:
12/08/2021

Coordinates:
38.470602, -83.617658

Description:
Upstream view of
ephemeral stream S-A-33.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
95

Date:
12/09/2021

Coordinates:
38.472359, -83.617453

Description:
Upstream view of
intermittent stream S-A-
34.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
96

Date:
12/09/2021

Coordinates:
38.480310, -83.627740

Description:
Upstream view of
intermittent stream S-A-
35.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
97

Date:
12/09/2021

Coordinates:
38.479768, -83.625415

Description:
Upstream view of perennial stream S-A-36, Trotter Creek.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
98

Date:
12/09/2021

Coordinates:
38.479615, -83.624307

Description:
Upstream view of ephemeral stream S-A-37.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
99

Date:
12/09/2021

Coordinates:
38.477985, -83.624697

Description:
Downstream view of
ephemeral stream S-A-38.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
100

Date:
12/09/2021

Coordinates:
38.477880, -83.628028

Description:
Downstream view of
ephemeral stream S-A-39.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
101

Date:
12/09/2021

Coordinates:
38.430022, -83.647414

Description:
Upstream view of
ephemeral stream S-B-1.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
102

Date:
12/07/2021

Coordinates:
38.462517, -83.639334

Description:
Downstream view of
ephemeral stream S-B-2.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
103

Date:
12/07/2021

Coordinates:
38.427600, -83.648630

Description:
Downstream view of
intermittent stream S-B-3,
Wilson's Run.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
104

Date:
12/07/2021

Coordinates:
38.428800, -83.652071

Description:
Downstream view of
ephemeral stream S-B-4.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
105

Date:
12/07/2021

Coordinates:
38.424867, -83.651704

Description:
Upstream view of
ephemeral stream S-B-5.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
106

Date:
12/07/2021

Coordinates:
38.424108, -83.664262

Description:
Upstream view of
perennial stream S-B-6.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
107

Date:
12/07/2021

Coordinates:
38.428370, -83.664531

Description:
Upstream view of
ephemeral stream S-B-7.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
108

Date:
12/07/2021

Coordinates:
38.428370, -83.658089

Description:
Downstream view of
ephemeral stream S-B-8.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
109

Date:
12/07/2021

Coordinates:
38.422143, -83.66415

Description:
Upstream view of
ephemeral stream S-B-9.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
110

Date:
12/07/2021

Coordinates:
38.421274, -83.665034

Description:
Downstream view of
ephemeral stream S-B-10.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
111

Date:
12/07/2021

Coordinates:
38.421209, -83.663993

Description:
Upstream view of
ephemeral stream S-B-11.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
112

Date:
12/07/2021

Coordinates:
38.430675, -83.672725

Description:
Downstream view of
ephemeral stream S-B-12.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
113

Date:
12/07/2021

Coordinates:
38.436918, -83.672642

Description:
Downstream view of
ephemeral stream S-B-13.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
114

Date:
12/07/2021

Coordinates:
38.438645, -83.676395

Description:
Upstream view of
ephemeral stream S-B-14.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
115

Date:
12/07/2021

Coordinates:
38.436594, -83.680827

Description:
Upstream view of
ephemeral stream S-B-15.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
116

Date:
12/07/2021

Coordinates:
38.437638, -83.678704

Description:
Downstream view of
ephemeral stream S-B-16.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
117

Date:
12/07/2021

Coordinates:
38.495272, -83.604389

Description:
Upstream view of
intermittent stream S-B-
17.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
118

Date:
12/08/2021

Coordinates:
38.494478, -83.604903

Description:
Downstream view of
ephemeral stream S-B-18.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
119

Date:
12/08/2021

Coordinates:
38.494592, -83.602998

Description:
Downstream view of
ephemeral stream S-B-19.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
120

Date:
12/08/2021

Coordinates:
38.499819, -89.60423

Description:
Upstream view of
intermittent stream S-B-
20.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
121

Date:
12/08/2021

Coordinates:
38.48992, -83.608213

Description:
Downstream view of
ephemeral stream S-B-21.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
122

Date:
12/08/2021

Coordinates:
38.48807, -83.607782

Description:
Upstream view of
ephemeral stream S-B-22.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
123

Date:
12/08/2021

Coordinates:
38.451156, -83.669045

Description:
Upstream view of
ephemeral stream S-B-23.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
124

Date:
12/08/2021

Coordinates:
38.490364, -83.614697

Description:
Upstream view of
ephemeral stream S-B-24.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
125

Date:
12/08/2021

Coordinates:
38.428738, -83.669045

Description:
Upstream view of
perennial stream S-B-25.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
126

Date:
12/07/2021

Coordinates:
38.492634, -83.616341

Description:
Upstream view of
ephemeral stream S-B-26.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
127

Date:
12/08/2021

Coordinates:
38.493823, -83.616807

Description:
Upstream view of
ephemeral stream S-B-27.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
128

Date:
12/08/2021

Coordinates:
38.497012, -83.615958

Description:
Downstream view of
perennial stream S-B-28,
Trotter Creek.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
129

Date:
12/08/2021

Coordinates:
38.496106, -83.617643

Description:
Downstream view of
intermittent stream S-B-
29.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
130

Date:
12/08/2021

Coordinates:
38.481383, -83.620526

Description:
Downstream view of
intermittent stream S-B-
30.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
131

Date:
12/08/2021

Coordinates:
38.48254, -83.620763

Description:
Upstream view of
ephemeral stream S-B-31.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
132

Date:
12/08/2021

Coordinates:
38.479548, -83.619298

Description:
Downstream view of
intermittent stream S-B-32.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
133

Date:
12/08/2021

Coordinates:
38.483506, -83.613365

Description:
Upstream view of
ephemeral stream S-B-33.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
134

Date:
12/08/2021

Coordinates:
38.485871, -83.61400

Description:
Downstream view of
ephemeral stream S-B-34.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
135

Date:
12/08/2021

Coordinates:
38.477662, -83.619745

Description:
Downstream view of
ephemeral stream S-B-35.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
136

Date:
12/09/2021

Coordinates:
38.472604, -83.621583

Description:
Downstream view of
ephemeral stream S-B-37.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
137

Date:
12/09/2021

Coordinates:
38.475061, -83.621225

Description:
Upstream view of
ephemeral stream S-B-38.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
138

Date:
12/09/2021

Coordinates:
38.495880, -83.667394

Description:
Upstream view of
perennial stream S-C-1,
Farrows Creek.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
139

Date:
12/07/2021

Coordinates:
38.495961, -83.668759

Description:
Downstream view of
intermittent stream S-C-2.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
140

Date:
12/07/2021

Coordinates:
38.495567, 83.666811

Description:
Upstream view of
ephemeral stream S-C-3.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
141

Date:
12/07/2021

Coordinates:
38.495284, -83.666298

Description:
Downstream view of
ephemeral stream S-C-4.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
142

Date:
12/07/2021

Coordinates:
38.496903, -83.662906

Description:
Downstream view of
intermittent stream S-C-5.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
143

Date:
12/07/2021

Coordinates:
38.497751, -83.666594

Description:
Downstream view of
intermittent stream S-C-6



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
144

Date:
12/08/2021

Coordinates:
38.497937, -83.666779

Description:
Upstream view of
ephemeral stream S-C-7.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
145

Date:
12/07/2021

Coordinates:
38.484732, -83.653163

Description:
Upstream view of
intermittent stream S-C-8.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
146

Date:
12/07/2021

Coordinates:
38.485125, -83.651403

Description:
Downstream view of
intermittent stream S-C-9.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
147

Date:
12/07/2021

Coordinates:
38.486214, -83.655619

Description:
Downstream view of
ephemeral stream S-C-10.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
148

Date:
12/07/2021

Coordinates:
38.486178, -83.654015

Description:
Downstream view of
ephemeral stream S-C-11.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
149

Date:
12/07/2021

Coordinates:
38.479548, -83.619298

Description:
Upstream view of
intermittent stream S-C-
12.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
150

Date:
12/08/2021

Coordinates:
38.48819, -83.66815

Description:
Upstream view of
ephemeral stream S-C-13.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
151

Date:
12/08/2021

Coordinates:
38.485485, -83.671601

Description:
Downstream view of
ephemeral stream S-C-14.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
152

Date:
12/08/2021

Coordinates:
38.488975, -83.670159

Description:
Downstream view of
intermittent stream S-C-15.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
153

Date:
12/08/2021

Coordinates:
38.487627, -83.667428

Description:
Downstream view of
perennial stream S-C-16.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
154

Date:
12/08/2021

Coordinates:
38.485069, -83.666509

Description:
Downstream view of
ephemeral stream S-C-18.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
155

Date:
12/08/2021

Coordinates:
38485893, -83.664621

Description:
Upstream view of
ephemeral stream S-C-19.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
156

Date:
12/08/2021

Coordinates:
38.484420, -83.665058

Description:
Downstream view of
ephemeral stream S-C-20



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
157

Date:
12/08/2021

Coordinates:
38.483806, -83.664953

Description:
Downstream view of
ephemeral stream S-C-21.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
158

Date:
12/08/2021

Coordinates:
38.48520, -83.663759

Description:
Downstream view of
ephemeral stream S-C-22.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
159

Date:
12/08/2021

Coordinates:
38.467828, -83.648486

Description:
Upstream view of
intermittent stream S-C-
24.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
160

Date:
12/09/2021

Coordinates:
38.467559, -83.645588

Description:
Upstream view of
intermittent stream S-C-
25.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
161

Date:
12/09/2021

Coordinates:
38.429580, -83.651250

Description:
View of Potential Bat Tree #1.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
162

Date:
12/07/2021

Coordinates:
38.429640, -83.651180

Description:
View of inside hollow potential bat tree #1.

Date & Time: Tue Dec 7 11:03:53 EST 2021
Position: +038.42964° / -083.65118°
Altitude: 257m
Datum: WGS-84
Azimuth/Bearing: 020° N20E 0356mils (True)
Zoom: 1X
Bat Tree



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
163

Date:
12/07/2021

Coordinates:
38.497310, -83.615880

Description:
View of Potential Bat Tree
#2.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
161

Date:
05/23/2023

Coordinates:
38.429580, -83.651250

Description:
Downstream view of
S-D-1 Intermittent
Stream (Revisit)



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
162

Date:
05/23/2023

Coordinates:
38.429640, -83.651180

Description:
Upstream view of
ephemeral stream S-D-2
(revisit)



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
161

Date:
05/23/2023

Coordinates:
38.473846, -83.618162

Description:
Downstream view of ephemeral S-D-3.



Project Name:
Hummingbird Wetland Delineation

County/State:
Fleming County, Kentucky

Project No.
E320201702

Photo No.
162

Date:
05/23/2023

Coordinates:
38.477167, -83.638442

Description:
Downstream view of ephemeral S-D-4. Channel with moving water were both present under vegetation.



APPENDIX

C

WETLAND DETERMINATION
DATASHEETS

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-001
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.42639 Long.: -83.64047 Datum: _____
 Soil Map Unit Name: Msc2-Muse channery silt loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-001

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:	
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
4. _____	0	<input type="checkbox"/> 0.0%	_____		
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
8. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Prevalence Index worksheet:	
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>	
2. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>	
3. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>	
4. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>	
5. _____	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>80</u> x 5 = <u>400</u>	
6. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>80</u> (A) <u>400</u> (B)	
7. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>5.000</u>	
8. _____	0	<input type="checkbox"/> 0.0%	_____		
9. _____	0	<input type="checkbox"/> 0.0%	_____		
10. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Hydrophytic Vegetation Indicators:	
Shrub Stratum (Plot size: _____)				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%	
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Definition of Vegetation Strata:	
Herb Stratum (Plot size: _____)				Four Vegetation Strata:	
1. <u>Glycine max</u>	80	<input checked="" type="checkbox"/> 100.0%	UPL	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.	
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
8. _____	0	<input type="checkbox"/> 0.0%	_____		
9. _____	0	<input type="checkbox"/> 0.0%	_____		
10. _____	0	<input type="checkbox"/> 0.0%	_____		
11. _____	0	<input type="checkbox"/> 0.0%	_____		
12. _____	0	<input type="checkbox"/> 0.0%	_____		
	80	= Total Cover		Five Vegetation Strata:	
Woody Vine Stratum (Plot size: _____)				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).	
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.	
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	2.5Y	5/4	100				Clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
---	---	---

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

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-002
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.4534 Long.: -83.67086 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations:

Surface Water Present? Yes No Depth (inches): 1

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-002

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>85</u> x 2 = <u>170</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
9. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
10. _____	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>0</u> x 5 = <u>0</u>
11. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>85</u> (A) <u>170</u> (B)
12. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>2.000</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Dominance Test is > 50%
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
8. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
Shrub Stratum (Plot size: _____)				Five Vegetation Strata:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				
1. <u>Cyperus eragrostis</u>	60	<input checked="" type="checkbox"/> 70.6%	FACW	
2. <u>Juncus effusus</u>	25	<input checked="" type="checkbox"/> 29.4%	FACW	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-003
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45306 Long.: -83.67094 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-003

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>100</u> x 4 = <u>400</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>100</u> (A) <u>400</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.000</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	100 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-004
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45746 Long.: -83.66964 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-004

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>60</u> (A) <u>240</u> (B) Prevalence Index = B/A = <u>4.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Poa annua</u>	60	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)		%	Color (moist)		%		
0-21	0	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</p> <p><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-005
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45847 Long.: -83.67267 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Field Observations:	Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-006
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.4547 Long.: -83.66937 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-007
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.34547 Long.: -83.66937 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-008
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.44061 Long.: -83.6724 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-009
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.44539 Long.: -83.67353 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
<input type="checkbox"/> Water-Stained Leaves (B9)																																			
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																			
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-009**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
1. <u>Ulmus americana</u>	25	<input checked="" type="checkbox"/> 100.0%	FACW	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
25 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>25</u> x 2 = <u>50</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>55</u> x 5 = <u>275</u> Column Totals: <u>80</u> (A) <u>325</u> (B) Prevalence Index = B/A = <u>4.063</u>
1. <u>Rubus occidentalis</u>	35	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
35 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. <u>Lonicera maackii</u>	20	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
20 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-010
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.44596 Long.: -83.67348 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-010**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>85</u> x 2 = <u>170</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
9. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
10. _____	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>0</u> x 5 = <u>0</u>
11. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>85</u> (A) <u>170</u> (B)
12. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>2.000</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Dominance Test is > 50%
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
8. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
Shrub Stratum (Plot size: _____)				Five Vegetation Strata:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				
1. <u>Cyperus eragrostis</u>	60	<input checked="" type="checkbox"/> 70.6%	FACW	
2. <u>Juncus effusus</u>	25	<input checked="" type="checkbox"/> 29.4%	FACW	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	7.5YR	5/3	90	5YR	5/6	10	C	M	loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input checked="" type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</p> <p><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-011
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.44597 Long.: -83.67348 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
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<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-011

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>95</u> (A) <u>395</u> (B) Prevalence Index = B/A = <u>4.158</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Shrub Stratum (Plot size: _____)				
1. <u>Rubus occidentalis</u>	15	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
15 = Total Cover				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
Herb Stratum (Plot size: _____)				
1. <u>Poa pratensis</u>	80	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
80 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				Clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-012
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.44575 Long.: -83.67628 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-012

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>75</u> x 4 = <u>300</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>75</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>4.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Poa annua</u>	75	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-013
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.44767 Long.: -83.67518 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
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<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-013

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
1. <u>Ulmus americana</u>	55	<input checked="" type="checkbox"/> 61.1%	FACW	
2. <u>Acer rubrum</u>	35	<input checked="" type="checkbox"/> 38.9%	FAC	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
90 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>130</u> (A) <u>415</u> (B) Prevalence Index = B/A = <u>3.192</u>
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	40	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
40 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-014
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.44761 Long.: -83.66687 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-014**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>80</u> x 4 = <u>320</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>80</u> (A) <u>320</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.000</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	80 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-015
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.44841 Long.: -83.66502 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations:

Surface Water Present? Yes No Depth (inches): 4

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-015

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
1. <u>Platanus occidentalis</u>	5	<input checked="" type="checkbox"/> 33.3%	FACW	
2. <u>Cornus florida</u>	10	<input checked="" type="checkbox"/> 66.7%	FACU	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
15 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>50</u> x 1 = <u>50</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>65</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>1.538</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Typha latifolia</u>	50	<input checked="" type="checkbox"/> 100.0%	OBL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/2	80	5YR	5/6	20	C	M	Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</p> <p><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-016
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.4484 Long.: -83.66528 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Field Observations:	Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-016

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>80</u> (A) <u>320</u> (B) Prevalence Index = B/A = <u>4.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Poa annua</u>	80	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-017
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.4663 Long.: -83.66312 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:33%;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:33%;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Drift deposits (B3)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-017

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>75</u> x 5 = <u>375</u> Column Totals: <u>75</u> (A) <u>375</u> (B) Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
0 = Total Cover				
1. <u>Rubus occidentalis</u>	75	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
75 = Total Cover				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
0 = Total Cover				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				Clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-018
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.466 Long.: -83.6595 Datum: _____
 Soil Map Unit Name: Ne-Newark silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations:	Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-018**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status		
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
1. <u>Quercus rubra</u>	35	<input checked="" type="checkbox"/>	35.0%		FACU
2. <u>Cornus florida</u>	20	<input checked="" type="checkbox"/>	20.0%		FACU
3. <u>Carya ovata</u>	15	<input type="checkbox"/>	15.0%		FACU
4. <u>Maclura pomifera</u>	15	<input type="checkbox"/>	15.0%		UPL
5. <u>Prunus serotina</u>	15	<input type="checkbox"/>	15.0%		FACU
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
100 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>85</u> x 4 = <u>340</u> UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>100</u> (A) <u>415</u> (B) Prevalence Index = B/A = <u>4.150</u>	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
11. _____	0	<input type="checkbox"/>	0.0%		
12. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-019
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46512 Long.: -83.66129 Datum: _____
 Soil Map Unit Name: NhB-Nicholson silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-019**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status		
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>80</u> (A) <u>320</u> (B) Prevalence Index = B/A = <u>4.000</u>	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.	
1. <u>Poa annua</u>	80	<input checked="" type="checkbox"/>	100.0%		FACU
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
11. _____	0	<input type="checkbox"/>	0.0%		
12. _____	0	<input type="checkbox"/>	0.0%		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-020
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46479 Long.: -83.66236 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-020**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:	
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
4. _____	0	<input type="checkbox"/> 0.0%	_____		
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
8. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Prevalence Index worksheet:	
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>	
2. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>80</u> x 2 = <u>160</u>	
3. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>	
4. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>	
5. _____	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>0</u> x 5 = <u>0</u>	
6. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>80</u> (A) <u>160</u> (B)	
7. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>2.000</u>	
8. _____	0	<input type="checkbox"/> 0.0%	_____		
9. _____	0	<input type="checkbox"/> 0.0%	_____		
10. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Hydrophytic Vegetation Indicators:	
Shrub Stratum (Plot size: _____)				<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Dominance Test is > 50%	
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Definition of Vegetation Strata:	
Herb Stratum (Plot size: _____)				Four Vegetation Strata:	
1. <u>Juncus effusus</u>	80	<input checked="" type="checkbox"/> 100.0% FACW	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.	
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
8. _____	0	<input type="checkbox"/> 0.0%	_____		
9. _____	0	<input type="checkbox"/> 0.0%	_____		
10. _____	0	<input type="checkbox"/> 0.0%	_____		
11. _____	0	<input type="checkbox"/> 0.0%	_____		
12. _____	0	<input type="checkbox"/> 0.0%	_____		
	80	= Total Cover		Five Vegetation Strata:	
Woody Vine Stratum (Plot size: _____)				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).	
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.	
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-021
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45504 Long.: -83.66227 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
<input type="checkbox"/> Water-Stained Leaves (B9)																																			
<input type="checkbox"/> Aquatic Fauna (B13)																																			
<input type="checkbox"/> Surface Soil Cracks (B6)																																			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																			
<input type="checkbox"/> Drainage Patterns (B10)																																			
<input type="checkbox"/> Moss Trim Lines (B16)																																			
<input type="checkbox"/> Dry Season Water Table (C2)																																			
<input type="checkbox"/> Crayfish Burrows (C8)																																			
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)																																			
<input type="checkbox"/> Stunted or Stressed Plants (D1)																																			
<input type="checkbox"/> Geomorphic Position (D2)																																			
<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-022
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46468 Long.: -83.66296 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-022

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>80</u> (A) <u>320</u> (B) Prevalence Index = B/A = <u>4.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Poa annua</u>	80	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-023
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46281 Long.: -83.66414 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-023

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>15</u> x 2 = <u>30</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>45</u> x 3 = <u>135</u>
= Total Cover				FACU species <u>0</u> x 4 = <u>0</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>60</u> (A) <u>165</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>2.750</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Shrub Stratum (Plot size: _____)				
1. <u>Sambucus nigra ssp. canadensis</u>	45	<input checked="" type="checkbox"/> 100.0% FAC	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Juncus effusus</u>	15	<input checked="" type="checkbox"/> 100.0% FACW	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

Definition of Vegetation Strata:

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

Five Vegetation Strata:
Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-024
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46299 Long.: -83.66427 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-024**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	= Total Cover		Prevalence Index worksheet:
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
2. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
4. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>80</u> x 4 = <u>320</u>
5. _____	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>0</u> x 5 = <u>0</u>
6. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>80</u> (A) <u>320</u> (B)
7. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.000</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
10. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
	0	= Total Cover		<input type="checkbox"/> Dominance Test is > 50%
Shrub Stratum (Plot size: _____)				<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
3. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
6. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
7. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
	0	= Total Cover		Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb Stratum (Plot size: _____)				Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
1. <u>Poa annua</u>	80	<input checked="" type="checkbox"/> 100.0%	FACU	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
3. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
4. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	80	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	= Total Cover		
Hydrophytic Vegetation Present?				Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-025
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46388 Long.: -83.66909 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
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<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
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<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/2	90	7.5YR	5/6	10	C	M	loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input checked="" type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</p> <p><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-026
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46432 Long.: -83.66883 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-026

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
1. <u>Platanus occidentalis</u>	15	<input checked="" type="checkbox"/> 50.0%	FACW	
2. <u>Quercus rubra</u>	15	<input checked="" type="checkbox"/> 50.0%	FACU	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
30 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>50</u> (A) <u>150</u> (B) Prevalence Index = B/A = <u>3.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Rumex crispus</u>	20	<input checked="" type="checkbox"/> 100.0%	FAC	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-027
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46663 Long.: -83.66809 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
<input type="checkbox"/> Water-Stained Leaves (B9)																																			
<input type="checkbox"/> Aquatic Fauna (B13)																																			
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<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-027

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. <u>Juniperus ashei</u>	15	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
15 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>95</u> x 5 = <u>475</u> Column Totals: <u>95</u> (A) <u>475</u> (B) Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus occidentalis</u>	35	<input checked="" type="checkbox"/> 43.8%	UPL	
2. <u>Lonicera maackii</u>	45	<input checked="" type="checkbox"/> 56.3%	UPL	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
80 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-028
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45685 Long.: -83.66553 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-028

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
_____	0	<input type="checkbox"/> 0.0%	_____	
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>40</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. Rubus occidentalis				
2. Lonicera maackii				
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
_____	0	<input type="checkbox"/> 0.0%	_____	
_____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. Rubus occidentalis				
2. Lonicera maackii				
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
_____	0	<input type="checkbox"/> 0.0%	_____	
_____	0	<input type="checkbox"/> 0.0%	_____	
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/6	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-029
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45718 Long.: -83.65887 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-029**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>80</u> x 4 = <u>320</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>80</u> (A) <u>320</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.000</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				
1. <u>Poa annua</u>	80	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/6	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-030
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46008 Long.: -83.65528 Datum: _____
 Soil Map Unit Name: No-Nolin silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-030

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>75</u> x 5 = <u>375</u> Column Totals: <u>75</u> (A) <u>375</u> (B) Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus occidentalis</u>	20	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Solidago arguta</u>	55	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-031
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46107 Long.: -83.65837 Datum: _____
 Soil Map Unit Name: No-Nolin silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																			
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-031

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>65</u> x 5 = <u>325</u> Column Totals: <u>65</u> (A) <u>325</u> (B) Prevalence Index = B/A = <u>5.000</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Shrub Stratum (Plot size: _____)				
1. <u>Rubus occidentalis</u>	25	<input checked="" type="checkbox"/> 55.6%	UPL	
2. <u>Lonicera maackii</u>	20	<input checked="" type="checkbox"/> 44.4%	UPL	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
45 = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Solidago arguta</u>	20	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
20 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-032
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46271 Long.: -83.65481 Datum: _____
 Soil Map Unit Name: Ne-Newark silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-032

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
1. <u>Ulmus americana</u>	10	<input checked="" type="checkbox"/>	40.0%	FACW	
2. <u>Quercus rubra</u>	15	<input checked="" type="checkbox"/>	60.0%	FACU	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
25 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>25</u> x 5 = <u>125</u> Column Totals: <u>70</u> (A) <u>265</u> (B) Prevalence Index = B/A = <u>3.786</u>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	25	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
25 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. <u>Smlax rotundifolia</u>	20	<input checked="" type="checkbox"/>	100.0%	FAC	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
20 = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-033
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45602 Long.: -83.63547 Datum: _____
 Soil Map Unit Name: La-Lawrence silt loam, 0 to 2 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-033**

		Dominant Species? Rel.Strat. Cover		Indicator Status
Tree Stratum (Plot size: _____)	Absolute % Cover			
1. <u>Quercus palustris</u>	25	<input checked="" type="checkbox"/>	31.3%	FACW
2. <u>Quercus alba</u>	20	<input checked="" type="checkbox"/>	25.0%	FACU
3. <u>Carya ovata</u>	20	<input checked="" type="checkbox"/>	25.0%	FACU
4. <u>Ulmus americana</u>	15	<input type="checkbox"/>	18.8%	FACW
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
	80	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
11. _____	0	<input type="checkbox"/>	0.0%	
12. _____	0	<input type="checkbox"/>	0.0%	
	0	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of: 80 Multiply by:

OBL species	<u>0</u>	x	<u>1</u>	=	<u>0</u>
FACW species	<u>40</u>	x	<u>2</u>	=	<u>80</u>
FAC species	<u>0</u>	x	<u>3</u>	=	<u>0</u>
FACU species	<u>40</u>	x	<u>4</u>	=	<u>160</u>
UPL species	<u>0</u>	x	<u>5</u>	=	<u>0</u>
Column Totals:	<u>80</u>				<u>240</u>

Prevalence Index = B/A = 3.000

Hydrophytic Vegetation Indicators:

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

Prevalence Index is ≤ 3.0 ¹

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.

Definition of Vegetation Strata:

Four Vegetation Strata:

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

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-034
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46105 Long.: -83.63885 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

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

Remarks:

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/1	90	7.5YR	5/6	10	C	M	Clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-035
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46102 Long.: -83.63872 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-035

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>15</u> x 4 = <u>60</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>30</u> x 5 = <u>150</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Total s: <u>45</u> (A) <u>210</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.667</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	45 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-036
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46072 Long.: -83.63733 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-036

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:		
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)		
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)		
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)		
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:		
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____		
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>		
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>		
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>20</u> x 3 = <u>60</u>		
				FACU species <u>0</u> x 4 = <u>0</u>		
				UPL species <u>45</u> x 5 = <u>225</u>		
				Column Totals: <u>65</u> (A) <u>285</u> (B)		
				Prevalence Index = B/A = <u>4.385</u>		
				Hydrophytic Vegetation Indicators:		
				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation		
				<input type="checkbox"/> Dominance Test is > 50%		
				<input type="checkbox"/> Prevalence Index is ≤3.0 ¹		
				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)		
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
				Definition of Vegetation Strata:		
				Four Vegetation Strata:		
				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
				Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
				Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.		
				Woody vines – Consists of all woody vines greater than 3.28 ft in height.		
				Five Vegetation Strata:		
				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
				Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.		
				Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
				Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.		
				Woody vines – Consists of all woody vines, regardless of height.		
				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>		
Remarks: (Include photo numbers here or on a separate sheet.)						

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-037
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46218 Long.: -83.63946 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-037

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)
1. <u>Quercus rubra</u>	15	<input checked="" type="checkbox"/> 60.0%	FACU	
2. <u>Quercus palustris</u>	10	<input checked="" type="checkbox"/> 40.0%	FACW	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
25 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>35</u> x 5 = <u>175</u> Column Totals: <u>60</u> (A) <u>255</u> (B) Prevalence Index = B/A = <u>4.250</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus occidentalis</u>	15	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
15 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Solidago arguta</u>	20	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
20 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-038
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45893 Long.: -83.62283 Datum: _____
 Soil Map Unit Name: NhB-Nicholson silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
<input type="checkbox"/> Water-Stained Leaves (B9)																																			
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<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																			
<input type="checkbox"/> Drainage Patterns (B10)																																			
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<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	

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

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-038

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>20</u> x 5 = <u>100</u> Column Totals: <u>80</u> (A) <u>340</u> (B) Prevalence Index = B/A = <u>4.250</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Poa annua</u>	60	<input checked="" type="checkbox"/> 75.0%	FACU	
2. <u>Solidago arguta</u>	20	<input checked="" type="checkbox"/> 25.0%	UPL	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-039
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45562 Long.: -83.62315 Datum: _____
 Soil Map Unit Name: W-Water NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-039

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>65</u> x 1 = <u>65</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>65</u> (A) <u>65</u> (B) Prevalence Index = B/A = <u>1.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Typha latifolia</u>	65	<input checked="" type="checkbox"/> 100.0%	OBL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-040
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45567 Long.: -83.62324 Datum: _____
 Soil Map Unit Name: NhB-Nicholson silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
<input type="checkbox"/> Water-Stained Leaves (B9)																																			
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																			
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-040**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>100</u> x 4 = <u>400</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>100</u> (A) <u>400</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.000</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	100 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-041
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45471 Long.: -83.62596 Datum: _____
 Soil Map Unit Name: Ne-Newark silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-041

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	35.7%	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
1. <u>Quercus palustris</u>	25	<input checked="" type="checkbox"/>	35.7%	FACW	
2. <u>Ulmus americana</u>	25	<input checked="" type="checkbox"/>	35.7%	FACW	
3. <u>Acer saccharum</u>	20	<input checked="" type="checkbox"/>	28.6%	FACU	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
70 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>35</u> x 5 = <u>175</u> Column Totals: <u>105</u> (A) <u>355</u> (B) Prevalence Index = B/A = <u>3.381</u>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus occidentalis</u>	35	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
35 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-042
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.45587 Long.: -83.61759 Datum: _____
 Soil Map Unit Name: Msc2-Muse channery silt loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-042

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>20</u> x 4 = <u>80</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>40</u> x 5 = <u>200</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>60</u> (A) <u>280</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.667</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	60 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				Clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-043
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46699 Long.: -83.61593 Datum: _____
 Soil Map Unit Name: Ma-McGary silt loam NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
<input type="checkbox"/> Water-Stained Leaves (B9)																																			
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<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																			
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-043**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>80</u> (A) <u>320</u> (B) Prevalence Index = B/A = <u>4.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Poa annua</u>	80	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-044
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46767 Long.: -83.61358 Datum: _____
 Soil Map Unit Name: StD3-Shrouts silty clay, 12 to 20 percent slopes, severely eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-044**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>50</u> x 5 = <u>250</u> Column Totals: <u>70</u> (A) <u>330</u> (B) Prevalence Index = B/A = <u>4.714</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	25	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Solidago arguta</u>	25	<input checked="" type="checkbox"/> 55.6%	UPL	
2. <u>Allium canadense</u>	20	<input checked="" type="checkbox"/> 44.4%	FACU	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-045
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48096 Long.: -83.64245 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Drift deposits (B3)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-045

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>80</u> (A) <u>320</u> (B) Prevalence Index = B/A = <u>4.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Poa annua</u>	80	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-046
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47812 Long.: -83.64053 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-046

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>20</u> x 3 = <u>60</u>
	0 = Total Cover			FACU species <u>30</u> x 4 = <u>120</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>15</u> x 5 = <u>75</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Total s: <u>65</u> (A) <u>255</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>3.923</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	65 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-047
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47088 Long.: -83.61592 Datum: _____
 Soil Map Unit Name: StC3-Shrouts silty clay, 6 to 12 percent slopes, severely eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																			
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-047

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. <u>Juniperus ashei</u>	20	<input checked="" type="checkbox"/> 50.0%	UPL	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. <u>Carya ovata</u>	20	<input checked="" type="checkbox"/> 50.0%	FACU	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%		Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%		OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%		FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%		FAC species <u>0</u> x 3 = <u>0</u>
	40	= Total Cover		FACU species <u>20</u> x 4 = <u>80</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>20</u> x 5 = <u>100</u>
1. _____	0	<input type="checkbox"/> 0.0%		Column Totals: <u>40</u> (A) <u>180</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = <u>4.500</u>
3. _____	0	<input type="checkbox"/> 0.0%		Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%		Definition of Vegetation Strata:
	0	= Total Cover		Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%		Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%		Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%		Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%		Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%		Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%		Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%		Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%		Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-048
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47047 Long.: -83.61773 Datum: _____
 Soil Map Unit Name: StC3-Shrouts silty clay, 6 to 12 percent slopes, severely eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-048**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. <u>Carya ovata</u>	15	<input checked="" type="checkbox"/> 50.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. <u>Quercus rubra</u>	15	<input checked="" type="checkbox"/> 50.0%	FACU	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%		Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%		OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%		FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%		FAC species <u>0</u> x 3 = <u>0</u>
	30 = Total Cover			FACU species <u>30</u> x 4 = <u>120</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%		Column Totals: <u>30</u> (A) <u>120</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = <u>4.000</u>
3. _____	0	<input type="checkbox"/> 0.0%		Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%		Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%		Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%		Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%		Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%		Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%		Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%		Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%		Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%		Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
Herb Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-049
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47173 Long.: -83.61955 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
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<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
<input type="checkbox"/> Water-Stained Leaves (B9)																																			
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<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																			
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-049**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. <u>Juniperus ashei</u>	40	<input checked="" type="checkbox"/> 100.0%	UPL	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%		Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%		OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%		FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%		FAC species <u>0</u> x 3 = <u>0</u>
	40	= Total Cover		FACU species <u>0</u> x 4 = <u>0</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>40</u> x 5 = <u>200</u>
1. _____	0	<input type="checkbox"/> 0.0%		Column Totals: <u>40</u> (A) <u>200</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = <u>5.000</u>
3. _____	0	<input type="checkbox"/> 0.0%		Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%		Definition of Vegetation Strata:
	0	= Total Cover		Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%		Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%		Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%		Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%		Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%		Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%		Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%		Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%		Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-050
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48076 Long.: -83.62685 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-050

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
1. <u>Quercus palustris</u>	15	<input checked="" type="checkbox"/> 30.0%	FACW	
2. <u>Quercus rubra</u>	25	<input checked="" type="checkbox"/> 50.0%	FACU	
3. <u>Carya ovata</u>	10	<input checked="" type="checkbox"/> 20.0%	FACU	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
50 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>50</u> (A) <u>170</u> (B) Prevalence Index = B/A = <u>3.400</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-051
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47976 Long.: -83.6236 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-A-051**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. <u>Juniperus ashei</u>	25	<input checked="" type="checkbox"/> 55.6%	UPL	
2. <u>Carya ovata</u>	20	<input checked="" type="checkbox"/> 44.4%	FACU	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
45 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>75</u> x 4 = <u>300</u> UPL species <u>25</u> x 5 = <u>125</u> Column Totals: <u>100</u> (A) <u>425</u> (B) Prevalence Index = B/A = <u>4.250</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Poa annua</u>	55	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-A-052
 Investigator(s): J. Stelly, K. Anderson Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47887 Long.: -83.63313 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-A-052

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status		
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)	
1. <u>Platanus occidentalis</u>	25	<input checked="" type="checkbox"/>	55.6%		FACW
2. <u>Ulmus crassifolia</u>	20	<input checked="" type="checkbox"/>	44.4%		FAC
3. _____	0	<input type="checkbox"/>	0.0%		_____
4. _____	0	<input type="checkbox"/>	0.0%		_____
5. _____	0	<input type="checkbox"/>	0.0%		_____
6. _____	0	<input type="checkbox"/>	0.0%		_____
7. _____	0	<input type="checkbox"/>	0.0%		_____
8. _____	0	<input type="checkbox"/>	0.0%		_____
45 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>25</u> x 2 = <u>50</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>105</u> (A) <u>390</u> (B) Prevalence Index = B/A = <u>3.714</u>	
1. _____	0	<input type="checkbox"/>	0.0%		_____
2. _____	0	<input type="checkbox"/>	0.0%		_____
3. _____	0	<input type="checkbox"/>	0.0%		_____
4. _____	0	<input type="checkbox"/>	0.0%		_____
5. _____	0	<input type="checkbox"/>	0.0%		_____
6. _____	0	<input type="checkbox"/>	0.0%		_____
7. _____	0	<input type="checkbox"/>	0.0%		_____
8. _____	0	<input type="checkbox"/>	0.0%		_____
9. _____	0	<input type="checkbox"/>	0.0%		_____
10. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>Lonicera maackii</u>	40	<input checked="" type="checkbox"/>	100.0%		UPL
2. _____	0	<input type="checkbox"/>	0.0%		_____
3. _____	0	<input type="checkbox"/>	0.0%		_____
4. _____	0	<input type="checkbox"/>	0.0%		_____
5. _____	0	<input type="checkbox"/>	0.0%		_____
6. _____	0	<input type="checkbox"/>	0.0%		_____
7. _____	0	<input type="checkbox"/>	0.0%		_____
40 = Total Cover					
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.	
1. <u>Poa annua</u>	20	<input checked="" type="checkbox"/>	100.0%		FACU
2. _____	0	<input type="checkbox"/>	0.0%		_____
3. _____	0	<input type="checkbox"/>	0.0%		_____
4. _____	0	<input type="checkbox"/>	0.0%		_____
5. _____	0	<input type="checkbox"/>	0.0%		_____
6. _____	0	<input type="checkbox"/>	0.0%		_____
7. _____	0	<input type="checkbox"/>	0.0%		_____
8. _____	0	<input type="checkbox"/>	0.0%		_____
9. _____	0	<input type="checkbox"/>	0.0%		_____
10. _____	0	<input type="checkbox"/>	0.0%		_____
11. _____	0	<input type="checkbox"/>	0.0%		_____
12. _____	0	<input type="checkbox"/>	0.0%	_____	
20 = Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
1. _____	0	<input type="checkbox"/>	0.0%		_____
2. _____	0	<input type="checkbox"/>	0.0%		_____
3. _____	0	<input type="checkbox"/>	0.0%		_____
4. _____	0	<input type="checkbox"/>	0.0%		_____
5. _____	0	<input type="checkbox"/>	0.0%		_____
6. _____	0	<input type="checkbox"/>	0.0%		_____
0 = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-001
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.42588 Long.: -83.64361 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																			
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<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																			
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/4	100					

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-002
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.42948 Long.: -83.64646 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-002

			Dominant Species? Rel.Strat. Cover		
Tree Stratum (Plot size: _____)	Absolute % Cover		Indicator Status	Dominance Test worksheet:	
1. _____	0	<input type="checkbox"/>	0.0%	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____	0	<input type="checkbox"/>	0.0%	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	0	<input type="checkbox"/>	0.0%	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
	0	= Total Cover		Prevalence Index worksheet:	
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____	0	<input type="checkbox"/>	0.0%	OBL species <u>0</u> x 1 = <u>0</u>	
2. _____	0	<input type="checkbox"/>	0.0%	FACW species <u>0</u> x 2 = <u>0</u>	
3. _____	0	<input type="checkbox"/>	0.0%	FAC species <u>0</u> x 3 = <u>0</u>	
4. _____	0	<input type="checkbox"/>	0.0%	FACU species <u>0</u> x 4 = <u>0</u>	
5. _____	0	<input type="checkbox"/>	0.0%	UPL species <u>100</u> x 5 = <u>500</u>	
6. _____	0	<input type="checkbox"/>	0.0%	Column Totals: <u>100</u> (A) <u>500</u> (B)	
7. _____	0	<input type="checkbox"/>	0.0%	Prevalence Index = B/A = <u>5.000</u>	
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
	0	= Total Cover		Hydrophytic Vegetation Indicators:	
Shrub Stratum (Plot size: _____)				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
1. _____	0	<input type="checkbox"/>	0.0%	<input type="checkbox"/> Dominance Test is > 50%	
2. _____	0	<input type="checkbox"/>	0.0%	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____	0	<input type="checkbox"/>	0.0%	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____	0	<input type="checkbox"/>	0.0%	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	0	<input type="checkbox"/>	0.0%	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
	0	= Total Cover		Definition of Vegetation Strata:	
Herb Stratum (Plot size: _____)				Four Vegetation Strata:	
1. <u>Zea mays</u>	100	<input checked="" type="checkbox"/>	100.0%	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2. _____	0	<input type="checkbox"/>	0.0%	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3. _____	0	<input type="checkbox"/>	0.0%	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.	
4. _____	0	<input type="checkbox"/>	0.0%	Woody vines – Consists of all woody vines greater than 3.28 ft in height.	
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
11. _____	0	<input type="checkbox"/>	0.0%		
12. _____	0	<input type="checkbox"/>	0.0%		
	100	= Total Cover		Five Vegetation Strata:	
Woody Vine Stratum (Plot size: _____)				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).	
1. _____	0	<input type="checkbox"/>	0.0%	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	
2. _____	0	<input type="checkbox"/>	0.0%	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
3. _____	0	<input type="checkbox"/>	0.0%	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.	
4. _____	0	<input type="checkbox"/>	0.0%	Woody vines – Consists of all woody vines, regardless of height.	
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
	0	= Total Cover		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/4	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
---	---	---

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

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-003
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.4295 Long.: -83.65395 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-003

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					
1. <u>Juniperus ashei</u>	20	<input checked="" type="checkbox"/>	33.3%	UPL	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>60.0%</u> (A/B)
2. <u>Liquidambar styraciflua</u>	20	<input checked="" type="checkbox"/>	33.3%	FAC	
3. <u>Platanus occidentalis</u>	20	<input checked="" type="checkbox"/>	33.3%	FACW	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
	60	= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: _____)					
1. <u>Juniperus ashei</u>	30	<input checked="" type="checkbox"/>	75.0%	UPL	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>50</u> x 5 = <u>250</u> Column Totals: <u>100</u> (A) <u>380</u> (B) Prevalence Index = B/A = <u>3.800</u>
2. <u>Liquidambar styraciflua</u>	10	<input checked="" type="checkbox"/>	25.0%	FAC	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
	40	= Total Cover			
Shrub Stratum (Plot size: _____)					
1. _____	0	<input type="checkbox"/>	0.0%	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
	0	= Total Cover			
Herb Stratum (Plot size: _____)					
1. _____	0	<input type="checkbox"/>	0.0%	_____	Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
	0	= Total Cover			
Woody Vine Stratum (Plot size: _____)					
1. _____	0	<input type="checkbox"/>	0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
	0	= Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/6	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-004
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.42754 Long.: -83.65927 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-004

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:	
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
4. _____	0	<input type="checkbox"/> 0.0%	_____		
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
8. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Prevalence Index worksheet:	
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>	
2. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>	
3. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>	
4. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>	
5. _____	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>100</u> x 5 = <u>500</u>	
6. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>100</u> (A) <u>500</u> (B)	
7. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>5.000</u>	
8. _____	0	<input type="checkbox"/> 0.0%	_____		
9. _____	0	<input type="checkbox"/> 0.0%	_____		
10. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Hydrophytic Vegetation Indicators:	
Shrub Stratum (Plot size: _____)				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%	
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Definition of Vegetation Strata:	
Herb Stratum (Plot size: _____)				Four Vegetation Strata:	
1. <u>Medicago sativa</u>	100	<input checked="" type="checkbox"/> 100.0%	UPL	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.	
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
8. _____	0	<input type="checkbox"/> 0.0%	_____		
9. _____	0	<input type="checkbox"/> 0.0%	_____		
10. _____	0	<input type="checkbox"/> 0.0%	_____		
11. _____	0	<input type="checkbox"/> 0.0%	_____		
12. _____	0	<input type="checkbox"/> 0.0%	_____		
	100	= Total Cover		Five Vegetation Strata:	
Woody Vine Stratum (Plot size: _____)				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).	
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.	
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/4	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-005
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.4242 Long.: -83.6588 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Field Observations:	Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-005

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:	
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
4. _____	0	<input type="checkbox"/> 0.0%	_____		
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
8. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Prevalence Index worksheet:	
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>	
2. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>	
3. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>	
4. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>	
5. _____	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>100</u> x 5 = <u>500</u>	
6. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>100</u> (A) <u>500</u> (B)	
7. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>5.000</u>	
8. _____	0	<input type="checkbox"/> 0.0%	_____		
9. _____	0	<input type="checkbox"/> 0.0%	_____		
10. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Hydrophytic Vegetation Indicators:	
Shrub Stratum (Plot size: _____)				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%	
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Definition of Vegetation Strata:	
Herb Stratum (Plot size: _____)				Four Vegetation Strata:	
1. <u>Medicago sativa</u>	100	<input checked="" type="checkbox"/> 100.0%	UPL	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.	
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
7. _____	0	<input type="checkbox"/> 0.0%	_____		
8. _____	0	<input type="checkbox"/> 0.0%	_____		
9. _____	0	<input type="checkbox"/> 0.0%	_____		
10. _____	0	<input type="checkbox"/> 0.0%	_____		
11. _____	0	<input type="checkbox"/> 0.0%	_____		
12. _____	0	<input type="checkbox"/> 0.0%	_____		
	100	= Total Cover		Five Vegetation Strata:	
Woody Vine Stratum (Plot size: _____)				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).	
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.	
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
	0	= Total Cover		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-006
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.42816 Long.: -83.6729 Datum: _____
 Soil Map Unit Name: No-Nolin silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
<input type="checkbox"/> Water-Stained Leaves (B9)																																			
<input type="checkbox"/> Aquatic Fauna (B13)																																			
<input type="checkbox"/> Surface Soil Cracks (B6)																																			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																			
<input type="checkbox"/> Drainage Patterns (B10)																																			
<input type="checkbox"/> Moss Trim Lines (B16)																																			
<input type="checkbox"/> Dry Season Water Table (C2)																																			
<input type="checkbox"/> Crayfish Burrows (C8)																																			
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<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-006

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>100</u> x 5 = <u>500</u>
	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>100</u> (A) <u>500</u> (B)
Sapling-Sapling/Shrub Stratum (Plot size: _____)	0 = Total Cover			Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
10. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
Shrub Stratum (Plot size: _____)	0 = Total Cover			Five Vegetation Strata:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)	0 = Total Cover			
1. <u>Medicago sativa</u>	100	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)	100 = Total Cover			
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-007
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.43536 Long.: -83.67416 Datum: _____
 Soil Map Unit Name: CyE2-Cynthiana-Faywood complex, very rocky, 12 to 35 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-007

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B)
1. <u>Quercus marilandica</u>	20	<input checked="" type="checkbox"/>	33.3%	UPL	
2. <u>Sassafras albidum</u>	20	<input checked="" type="checkbox"/>	33.3%	FACU	
3. <u>Ulmus americana</u>	20	<input checked="" type="checkbox"/>	33.3%	FACW	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
60 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>60</u> x 5 = <u>300</u> Column Totals: <u>120</u> (A) <u>480</u> (B) Prevalence Index = B/A = <u>4.000</u>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	40	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
40 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. <u>Smlax rotundifolia</u>	20	<input checked="" type="checkbox"/>	100.0%	FAC	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
20 = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
---	---	---

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

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-008
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.43614 Long.: -83.67252 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouts complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-008

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B)
1. <u>Quercus marilandica</u>	20	<input checked="" type="checkbox"/>	40.0%	UPL	
2. <u>Sassafras albidum</u>	20	<input checked="" type="checkbox"/>	40.0%	FACU	
3. <u>Ulmus americana</u>	10	<input checked="" type="checkbox"/>	20.0%	FACW	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
50 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>90</u> (A) <u>360</u> (B) Prevalence Index = B/A = <u>4.000</u>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	20	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
20 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. <u>Smlax rotundifolia</u>	20	<input checked="" type="checkbox"/>	100.0%	FAC	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
20 = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-009
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.43656 Long.: -83.76976 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-009

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	<input type="checkbox"/>	Indicator Status	Dominance Test worksheet:
1. _____	0	0.0%	<input type="checkbox"/>	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	0.0%	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	0.0%	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	0.0%	<input type="checkbox"/>	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>100</u> x 5 = <u>500</u> Column Totals: <u>100</u> (A) <u>500</u> (B) Prevalence Index = B/A = <u>5.000</u>
5. _____	0	0.0%	<input type="checkbox"/>	_____	
6. _____	0	0.0%	<input type="checkbox"/>	_____	
7. _____	0	0.0%	<input type="checkbox"/>	_____	
8. _____	0	0.0%	<input type="checkbox"/>	_____	
= Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					
1. _____	0	0.0%	<input type="checkbox"/>	_____	
2. _____	0	0.0%	<input type="checkbox"/>	_____	
3. _____	0	0.0%	<input type="checkbox"/>	_____	
4. _____	0	0.0%	<input type="checkbox"/>	_____	
5. _____	0	0.0%	<input type="checkbox"/>	_____	
6. _____	0	0.0%	<input type="checkbox"/>	_____	
7. _____	0	0.0%	<input type="checkbox"/>	_____	
8. _____	0	0.0%	<input type="checkbox"/>	_____	
9. _____	0	0.0%	<input type="checkbox"/>	_____	
10. _____	0	0.0%	<input type="checkbox"/>	_____	
= Total Cover					
Shrub Stratum (Plot size: _____)					
1. _____	0	0.0%	<input type="checkbox"/>	_____	
2. _____	0	0.0%	<input type="checkbox"/>	_____	
3. _____	0	0.0%	<input type="checkbox"/>	_____	
4. _____	0	0.0%	<input type="checkbox"/>	_____	
5. _____	0	0.0%	<input type="checkbox"/>	_____	
6. _____	0	0.0%	<input type="checkbox"/>	_____	
7. _____	0	0.0%	<input type="checkbox"/>	_____	
= Total Cover					
Herb Stratum (Plot size: _____)					
1. <u>Medicago sativa</u>	100	100.0%	<input checked="" type="checkbox"/>	UPL	
2. _____	0	0.0%	<input type="checkbox"/>	_____	
3. _____	0	0.0%	<input type="checkbox"/>	_____	
4. _____	0	0.0%	<input type="checkbox"/>	_____	
5. _____	0	0.0%	<input type="checkbox"/>	_____	
6. _____	0	0.0%	<input type="checkbox"/>	_____	
7. _____	0	0.0%	<input type="checkbox"/>	_____	
8. _____	0	0.0%	<input type="checkbox"/>	_____	
9. _____	0	0.0%	<input type="checkbox"/>	_____	
10. _____	0	0.0%	<input type="checkbox"/>	_____	
11. _____	0	0.0%	<input type="checkbox"/>	_____	
12. _____	0	0.0%	<input type="checkbox"/>	_____	
= Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	0	0.0%	<input type="checkbox"/>	_____	
2. _____	0	0.0%	<input type="checkbox"/>	_____	
3. _____	0	0.0%	<input type="checkbox"/>	_____	
4. _____	0	0.0%	<input type="checkbox"/>	_____	
5. _____	0	0.0%	<input type="checkbox"/>	_____	
6. _____	0	0.0%	<input type="checkbox"/>	_____	
= Total Cover					

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

Hydrophytic Vegetation Present? Yes No

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-010
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.49335 Long.: -83.60758 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-B-010**

		Dominant Species? Rel.Strat. Cover		Indicator Status	
Tree Stratum (Plot size: _____)	Absolute % Cover				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>100</u> x 5 = <u>500</u> Column Totals: <u>100</u> (A) <u>500</u> (B) Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Herb Stratum (Plot size: _____)					
1. <u>Glycine max</u>	100	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/8	100				Clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-011
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.49529 Long.: -83.6019 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
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<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																			
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-011

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	50.0%	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
1. <u>Celtis occidentalis</u>	20	<input checked="" type="checkbox"/>	50.0%	FACU	
2. <u>Ulmus americana</u>	20	<input checked="" type="checkbox"/>	50.0%	FACW	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
40 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>70</u> (A) <u>270</u> (B) Prevalence Index = B/A = <u>3.857</u>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	30	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
30 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/8	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-012
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.49918 Long.: -83.59947 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-012

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)
1. <u>Juniperus ashei</u>	40	<input checked="" type="checkbox"/> 80.0%	UPL	
2. <u>Platanus occidentalis</u>	10	<input checked="" type="checkbox"/> 20.0%	FACW	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
50 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>80</u> x 5 = <u>400</u> Column Totals: <u>90</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>4.667</u>
1. <u>Juniperus ashei</u>	20	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
20 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	20	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
20 = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-013
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.49904 Long.: -83.60386 Datum: _____
 Soil Map Unit Name: W-Water NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-013

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>80</u> x 2 = <u>160</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Total s: <u>80</u> (A) <u>160</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>2.000</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	80 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/3	85	7.5YR	5/6	15	C	M	loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-014
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.4992 Long.: -83.6036 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-B-014**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	50.0%	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u> 0 </u> (A) Total Number of Dominant Species Across All Strata: <u> 4 </u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u> 0.0% </u> (A/B)
1. <u>Robinia pseudoacacia</u>	20	<input checked="" type="checkbox"/>	50.0%	FACU	
2. <u>Juniperus ashei</u>	20	<input checked="" type="checkbox"/>	50.0%	UPL	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
40 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u> 0 </u> x 1 = <u> 0 </u> FACW species <u> 0 </u> x 2 = <u> 0 </u> FAC species <u> 0 </u> x 3 = <u> 0 </u> FACU species <u> 50 </u> x 4 = <u> 200 </u> UPL species <u> 45 </u> x 5 = <u> 225 </u> Column Totals: <u> 95 </u> (A) <u> 425 </u> (B) Prevalence Index = B/A = <u> 4.474 </u>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus occidentalis</u>	25	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
25 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Xanthium spinosum</u>	30	<input checked="" type="checkbox"/>	100.0%	FACU	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
30 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/3	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-015
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.49637 Long.: -83.60494 Datum: _____
 Soil Map Unit Name: NhB-Nicholson silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-015

		Dominant Species? Rel.Strat. Cover		Indicator Status	
Tree Stratum (Plot size: _____)	Absolute % Cover				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
= Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>100</u> x 5 = <u>500</u> Column Totals: <u>100</u> (A) <u>500</u> (B) Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
= Total Cover					
Herb Stratum (Plot size: _____)					
1. <u>Medicago sativa</u>	100	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
= Total Cover					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-016
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48948 Long.: -83.60896 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
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<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Stunted or Stressed Plants (D1)																																			
<input type="checkbox"/> Geomorphic Position (D2)																																			
<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-B-016**

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
1. <u>Ulmus americana</u>	10	<input checked="" type="checkbox"/>	25.0%	FACW	
2. <u>Quercus palustris</u>	10	<input checked="" type="checkbox"/>	25.0%	FACW	
3. <u>Platanus occidentalis</u>	10	<input checked="" type="checkbox"/>	25.0%	FACW	
4. <u>Juniperus ashei</u>	10	<input checked="" type="checkbox"/>	25.0%	UPL	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
40 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>50</u> x 5 = <u>250</u> Column Totals: <u>80</u> (A) <u>310</u> (B) Prevalence Index = B/A = <u>3.875</u>
1. <u>Juniperus ashei</u>	20	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
20 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	20	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
20 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-017
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48825 Long.: -83.60807 Datum: _____
 Soil Map Unit Name: La-Lawrence silt loam, 0 to 2 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-018
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.49074 Long.: -83.61471 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-018

		Dominant Species? Rel.Strat. Cover		Indicator Status	
Tree Stratum (Plot size: _____)	Absolute % Cover				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/>	0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/>	0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/>	0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
	0	= Total Cover			Prevalence Index worksheet:
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Total % Cover of: _____ Multiply by: _____
1. _____	0	<input type="checkbox"/>	0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
2. _____	0	<input type="checkbox"/>	0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
3. _____	0	<input type="checkbox"/>	0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
4. _____	0	<input type="checkbox"/>	0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
5. _____	0	<input type="checkbox"/>	0.0%	_____	UPL species <u>100</u> x 5 = <u>500</u>
6. _____	0	<input type="checkbox"/>	0.0%	_____	Column Totals: <u>100</u> (A) <u>500</u> (B)
7. _____	0	<input type="checkbox"/>	0.0%	_____	Prevalence Index = B/A = <u>5.000</u>
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	Hydrophytic Vegetation Indicators:
10. _____	0	<input type="checkbox"/>	0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
	0	= Total Cover			<input type="checkbox"/> Dominance Test is > 50%
Shrub Stratum (Plot size: _____)					<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
1. _____	0	<input type="checkbox"/>	0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. _____	0	<input type="checkbox"/>	0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
3. _____	0	<input type="checkbox"/>	0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	Definition of Vegetation Strata:
6. _____	0	<input type="checkbox"/>	0.0%	_____	Four Vegetation Strata:
7. _____	0	<input type="checkbox"/>	0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
	0	= Total Cover			Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb Stratum (Plot size: _____)					Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
1. <u>Medicago sativa</u>	100	<input checked="" type="checkbox"/>	100.0%	UPL	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	Five Vegetation Strata:
4. _____	0	<input type="checkbox"/>	0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
5. _____	0	<input type="checkbox"/>	0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
6. _____	0	<input type="checkbox"/>	0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7. _____	0	<input type="checkbox"/>	0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
8. _____	0	<input type="checkbox"/>	0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
	0	= Total Cover			Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Woody Vine Stratum (Plot size: _____)	100	= Total Cover			
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
	0	= Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-019
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48904 Long.: -83.61566 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-B-019**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)
1. <u>Juniperus ashei</u>	20	<input checked="" type="checkbox"/> 50.0%	UPL	
2. <u>Robinia pseudoacacia</u>	20	<input checked="" type="checkbox"/> 50.0%	FACU	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
40 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>60</u> x 5 = <u>300</u> Column Totals: <u>100</u> (A) <u>440</u> (B) Prevalence Index = B/A = <u>4.400</u>
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	20	<input checked="" type="checkbox"/> 50.0%	UPL	
2. <u>Rubus occidentalis</u>	20	<input checked="" type="checkbox"/> 50.0%	UPL	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. <u>Smlax rotundifolia</u>	20	<input checked="" type="checkbox"/> 100.0%	FAC	
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
20 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/6	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-020
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.49425 Long.: -83.61686 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-B-020**

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					
1. <u>Carya ovata</u>	10	<input checked="" type="checkbox"/>	33.3%	FACU	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)
2. <u>Juniperus ashei</u>	10	<input checked="" type="checkbox"/>	33.3%	UPL	
3. <u>Quercus palustris</u>	10	<input checked="" type="checkbox"/>	33.3%	FACW	
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
30 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					
1. _____	0	<input type="checkbox"/>	0.0%		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>50</u> x 5 = <u>250</u> Column Totals: <u>100</u> (A) <u>430</u> (B) Prevalence Index = B/A = <u>4.300</u>
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
Shrub Stratum (Plot size: _____)					
1. <u>Rubus occidentalis</u>	40	<input checked="" type="checkbox"/>	100.0%	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
40 = Total Cover					
Herb Stratum (Plot size: _____)					
1. <u>Xanthium spinosum</u>	30	<input checked="" type="checkbox"/>	100.0%	FACU	Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
11. _____	0	<input type="checkbox"/>	0.0%		
12. _____	0	<input type="checkbox"/>	0.0%		
30 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	0	<input type="checkbox"/>	0.0%		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-021
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.49605 Long.: -83.61794 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
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<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input checked="" type="checkbox"/> FAC-neutral Test (D5)																																			
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																			
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-021

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
1. <u>Ulmus americana</u>	40	<input checked="" type="checkbox"/> 100.0%	FACW	
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
40 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>60</u> (A) <u>150</u> (B) Prevalence Index = B/A = <u>2.500</u>
1. <u>Ulmus americana</u>	10	<input checked="" type="checkbox"/> 100.0%	FACW	
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
10 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	10	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
10 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/4	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-022
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.4967 Long.: -83.61658 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Potentially relic pond on hillside that now drains our towards nearby creek	

Hydrology

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

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-022

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
1. <u>Juniperus ashei</u>	20	<input checked="" type="checkbox"/>	36.4%	UPL	
2. <u>Robinia pseudoacacia</u>	10	<input checked="" type="checkbox"/>	18.2%	FACU	
3. <u>Salix nigra</u>	10	<input checked="" type="checkbox"/>	18.2%	OBL	
4. <u>Juglans nigra</u>	10	<input checked="" type="checkbox"/>	18.2%	FACU	
5. <u>Ulmus americana</u>	5	<input type="checkbox"/>	9.1%	FACW	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
55 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>20</u> x 5 = <u>100</u> Column Totals: <u>65</u> (A) <u>215</u> (B) Prevalence Index = B/A = <u>3.308</u>
1. <u>Salix nigra</u>	5	<input checked="" type="checkbox"/>	50.0%	OBL	
2. <u>Ulmus americana</u>	5	<input checked="" type="checkbox"/>	50.0%	FACW	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
10 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/3	95	7.5YR	5/6	5	C	M	Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-023
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48177 Long.: -83.61651 Datum: _____
 Soil Map Unit Name: La-Lawrence silt loam, 0 to 2 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-B-023**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. <u>Quercus marilandica</u>	50	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
50 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>65</u> x 5 = <u>325</u> Column Totals: <u>65</u> (A) <u>325</u> (B) Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus occidentalis</u>	15	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
15 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/4	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-024
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48148 Long.: -83.61971 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-B-024**

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)
1. <u>Juniperus ashei</u>	20	<input checked="" type="checkbox"/>	57.1%	UPL	
2. <u>Ulmus americana</u>	15	<input checked="" type="checkbox"/>	42.9%	FACW	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
35 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>85</u> x 5 = <u>425</u> Column Totals: <u>100</u> (A) <u>455</u> (B) Prevalence Index = B/A = <u>4.550</u>
1. <u>Juniperus ashei</u>	15	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
15 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus occidentalis</u>	10	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
10 = Total Cover					
Herb Stratum (Plot size: _____)					
1. <u>Setaria faberi</u>	40	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
40 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-025
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48033 Long.: -83.62122 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Soil

Sampling Point: **DP-B-025**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-026
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47631 Long.: -83.6188 Datum: _____
 Soil Map Unit Name: SsB-Shrouts silty clay loam, 2 to 6 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>3</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-026

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	= Total Cover		Prevalence Index worksheet:
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
2. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>60</u> x 2 = <u>120</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
4. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
5. _____	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>0</u> x 5 = <u>0</u>
6. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>60</u> (A) <u>120</u> (B)
7. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>2.000</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
10. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation
	0	= Total Cover		<input checked="" type="checkbox"/> Dominance Test is > 50%
Shrub Stratum (Plot size: _____)				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
3. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
6. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
7. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
	0	= Total Cover		Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb Stratum (Plot size: _____)				Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
1. <u>Carex cherokeensis</u>	30	<input checked="" type="checkbox"/> 50.0%	FACW	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
2. <u>Juncus effusus</u>	30	<input checked="" type="checkbox"/> 50.0%	FACW	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
4. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
5. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	60	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	= Total Cover		Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-21	10YR	4/3	85	7.5YR	5/6	15	C	M	loamy clay

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-027
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47675 Long.: -83.62001 Datum: _____
 Soil Map Unit Name: StC3-Shrouts silty clay, 6 to 12 percent slopes, severely eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
<input type="checkbox"/> Water-Stained Leaves (B9)																																			
<input type="checkbox"/> Aquatic Fauna (B13)																																			
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<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																			
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<input type="checkbox"/> Geomorphic Position (D2)																																			
<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-028
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47705 Long.: -83.62037 Datum: _____
 Soil Map Unit Name: BaB-Beasley silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-028

Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. <u>Platanus occidentalis</u>	10	<input checked="" type="checkbox"/>	25.0%	FACW	
2. <u>Juncus abortivus</u>	10	<input checked="" type="checkbox"/>	25.0%	OBL	
3. <u>Ulmus americana</u>	10	<input checked="" type="checkbox"/>	25.0%	FACW	
4. <u>Quercus palustris</u>	10	<input checked="" type="checkbox"/>	25.0%	FACW	
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
40 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>70</u> x 2 = <u>140</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>80</u> (A) <u>150</u> (B) Prevalence Index = B/A = <u>1.875</u>
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Carex cherokeensis</u>	25	<input checked="" type="checkbox"/>	62.5%	FACW	
2. <u>Juncus effusus</u>	15	<input checked="" type="checkbox"/>	37.5%	FACW	
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
7. _____	0	<input type="checkbox"/>	0.0%		
8. _____	0	<input type="checkbox"/>	0.0%		
9. _____	0	<input type="checkbox"/>	0.0%		
10. _____	0	<input type="checkbox"/>	0.0%		
11. _____	0	<input type="checkbox"/>	0.0%		
12. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	0	<input type="checkbox"/>	0.0%		
2. _____	0	<input type="checkbox"/>	0.0%		
3. _____	0	<input type="checkbox"/>	0.0%		
4. _____	0	<input type="checkbox"/>	0.0%		
5. _____	0	<input type="checkbox"/>	0.0%		
6. _____	0	<input type="checkbox"/>	0.0%		
0 = Total Cover					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/3	80	7.5YR	5/6	20	C	M	Clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-029
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47705 Long.: -83.62113 Datum: _____
 Soil Map Unit Name: La-Lawrence silt loam, 0 to 2 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)																																		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-B-029**

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
1. <u>Ulmus americana</u>	20	<input checked="" type="checkbox"/>	50.0%	FACW	
2. <u>Juniperus ashei</u>	20	<input checked="" type="checkbox"/>	50.0%	UPL	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
40 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>35</u> x 5 = <u>175</u> Column Totals: <u>70</u> (A) <u>260</u> (B) Prevalence Index = B/A = <u>3.714</u>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus occidentalis</u>	15	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
15 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. <u>Smlax rotundifolia</u>	15	<input checked="" type="checkbox"/>	100.0%	FAC	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
15 = Total Cover					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-030
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47826 Long.: -83.62139 Datum: _____
 Soil Map Unit Name: BaB-Beasley silt loam, 2 to 6 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-030

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	<input type="checkbox"/>	Indicator Status	Dominance Test worksheet:	
1. _____	0	0.0%	<input type="checkbox"/>	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____	0	0.0%	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	0	0.0%	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)	
4. _____	0	0.0%	<input type="checkbox"/>	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>80</u> x 5 = <u>400</u> Column Totals: <u>80</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>5.000</u>	
5. _____	0	0.0%	<input type="checkbox"/>	_____		
6. _____	0	0.0%	<input type="checkbox"/>	_____		
7. _____	0	0.0%	<input type="checkbox"/>	_____		
8. _____	0	0.0%	<input type="checkbox"/>	_____		
0 = Total Cover						
Sapling-Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	<input type="checkbox"/>	Indicator Status		
1. _____	0	0.0%	<input type="checkbox"/>	_____		
2. _____	0	0.0%	<input type="checkbox"/>	_____		
3. _____	0	0.0%	<input type="checkbox"/>	_____		
4. _____	0	0.0%	<input type="checkbox"/>	_____		
5. _____	0	0.0%	<input type="checkbox"/>	_____		
6. _____	0	0.0%	<input type="checkbox"/>	_____		
7. _____	0	0.0%	<input type="checkbox"/>	_____		
8. _____	0	0.0%	<input type="checkbox"/>	_____		
9. _____	0	0.0%	<input type="checkbox"/>	_____		
10. _____	0	0.0%	<input type="checkbox"/>	_____		
0 = Total Cover						
Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	<input type="checkbox"/>	Indicator Status		
1. _____	0	0.0%	<input type="checkbox"/>	_____		
2. _____	0	0.0%	<input type="checkbox"/>	_____		
3. _____	0	0.0%	<input type="checkbox"/>	_____		
4. _____	0	0.0%	<input type="checkbox"/>	_____		
5. _____	0	0.0%	<input type="checkbox"/>	_____		
6. _____	0	0.0%	<input type="checkbox"/>	_____		
7. _____	0	0.0%	<input type="checkbox"/>	_____		
0 = Total Cover						
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	<input type="checkbox"/>	Indicator Status		
1. <u>Setaria faberi</u>	80	100.0%	<input checked="" type="checkbox"/>	UPL		
2. _____	0	0.0%	<input type="checkbox"/>	_____		
3. _____	0	0.0%	<input type="checkbox"/>	_____		
4. _____	0	0.0%	<input type="checkbox"/>	_____		
5. _____	0	0.0%	<input type="checkbox"/>	_____		
6. _____	0	0.0%	<input type="checkbox"/>	_____		
7. _____	0	0.0%	<input type="checkbox"/>	_____		
8. _____	0	0.0%	<input type="checkbox"/>	_____		
9. _____	0	0.0%	<input type="checkbox"/>	_____		
10. _____	0	0.0%	<input type="checkbox"/>	_____		
11. _____	0	0.0%	<input type="checkbox"/>	_____		
12. _____	0	0.0%	<input type="checkbox"/>	_____		
0 = Total Cover						
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	<input type="checkbox"/>	Indicator Status		
1. _____	0	0.0%	<input type="checkbox"/>	_____		
2. _____	0	0.0%	<input type="checkbox"/>	_____		
3. _____	0	0.0%	<input type="checkbox"/>	_____		
4. _____	0	0.0%	<input type="checkbox"/>	_____		
5. _____	0	0.0%	<input type="checkbox"/>	_____		
6. _____	0	0.0%	<input type="checkbox"/>	_____		
0 = Total Cover						

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

Hydrophytic Vegetation Present? Yes No

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-031
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47317 Long.: -83.61453 Datum: _____
 Soil Map Unit Name: SsB-Shrouts silty clay loam, 2 to 6 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-031

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
1. <u>Quercus marilandica</u>	20	<input checked="" type="checkbox"/> 33.3%	UPL	
2. <u>Ulmus americana</u>	20	<input checked="" type="checkbox"/> 33.3%	FACW	
3. <u>Quercus rubra</u>	20	<input checked="" type="checkbox"/> 33.3%	FACU	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
60 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>20</u> x 5 = <u>100</u> Column Totals: <u>60</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>3.667</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-032
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47273 Long.: -83.61777 Datum: _____
 Soil Map Unit Name: SsB-Shrouts silty clay loam, 2 to 6 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-032

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
1. <u>Quercus marilandica</u>	20	<input checked="" type="checkbox"/>	33.3%	UPL	
2. <u>Quercus rubra</u>	20	<input checked="" type="checkbox"/>	33.3%	FACU	
3. <u>Ulmus americana</u>	20	<input checked="" type="checkbox"/>	33.3%	FACW	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
60 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>20</u> x 5 = <u>100</u> Column Totals: <u>60</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>3.667</u>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-033
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47292 Long.: -83.62165 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-033

Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
1. <u>Juniperus ashei</u>	25	<input checked="" type="checkbox"/>	55.6%	UPL	
2. <u>Platanus occidentalis</u>	10	<input checked="" type="checkbox"/>	22.2%	FACW	
3. <u>Ulmus americana</u>	10	<input checked="" type="checkbox"/>	22.2%	FACW	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
45 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>55</u> x 5 = <u>275</u> Column Totals: <u>85</u> (A) <u>345</u> (B) Prevalence Index = B/A = <u>4.059</u>
1. <u>Juniperus ashei</u>	10	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
10 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	20	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
20 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. <u>Smlax rotundifolia</u>	10	<input checked="" type="checkbox"/>	100.0%	FAC	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
10 = Total Cover					
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-034
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47501 Long.: -83.62142 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																																		
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<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)																																		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-034

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:	
1. <u>Juniperus ashei</u>	25	<input checked="" type="checkbox"/> 55.6%	UPL	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)	
2. <u>Platanus occidentalis</u>	10	<input checked="" type="checkbox"/> 22.2%	FACW	Total Number of Dominant Species Across All Strata: <u>5</u> (B)	
3. <u>Ulmus americana</u>	10	<input checked="" type="checkbox"/> 22.2%	FACW	Percent of dominant Species That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B)	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:	
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>	
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>20</u> x 2 = <u>40</u>	
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>	
	45 = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>	
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>50</u> x 5 = <u>250</u>	
1. <u>Juniperus ashei</u>	10	<input checked="" type="checkbox"/> 100.0%	UPL	Column Totals: <u>70</u> (A) <u>290</u> (B)	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.143</u>	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:	
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%	
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹	
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:	
	10 = Total Cover			Four Vegetation Strata:	
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
1. <u>Lonicera maackii</u>	15	<input checked="" type="checkbox"/> 100.0%	UPL	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.	
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.	
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:	
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).	
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.	
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.	
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
11. _____	0	<input type="checkbox"/> 0.0%	_____		
12. _____	0	<input type="checkbox"/> 0.0%	_____		
	0 = Total Cover				
Woody Vine Stratum (Plot size: _____)					
1. _____	0	<input type="checkbox"/> 0.0%	_____		
2. _____	0	<input type="checkbox"/> 0.0%	_____		
3. _____	0	<input type="checkbox"/> 0.0%	_____		
4. _____	0	<input type="checkbox"/> 0.0%	_____		
5. _____	0	<input type="checkbox"/> 0.0%	_____		
6. _____	0	<input type="checkbox"/> 0.0%	_____		
	0 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-035
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47499 Long.: -83.62019 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations:

Surface Water Present? Yes No Depth (inches): 1

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks:

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/1	90	7.5YR	5/6	10	C	M	loamy clay	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-B-036
 Investigator(s): C. Hoffmann, W. Goertz Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47516 Long.: -83.62006 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-B-036

		Dominant Species? Rel.Strat. Cover		Indicator Status	
Tree Stratum (Plot size: _____)	Absolute % Cover				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/>	0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/>	0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/>	0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
	0	= Total Cover			Prevalence Index worksheet:
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Total % Cover of: _____ Multiply by: _____
1. _____	0	<input type="checkbox"/>	0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
2. _____	0	<input type="checkbox"/>	0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
3. _____	0	<input type="checkbox"/>	0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
4. _____	0	<input type="checkbox"/>	0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
5. _____	0	<input type="checkbox"/>	0.0%	_____	UPL species <u>80</u> x 5 = <u>400</u>
6. _____	0	<input type="checkbox"/>	0.0%	_____	Column Totals: <u>80</u> (A) <u>400</u> (B)
7. _____	0	<input type="checkbox"/>	0.0%	_____	Prevalence Index = B/A = <u>5.000</u>
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	Hydrophytic Vegetation Indicators:
10. _____	0	<input type="checkbox"/>	0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
	0	= Total Cover			<input type="checkbox"/> Dominance Test is > 50%
Shrub Stratum (Plot size: _____)					<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
1. _____	0	<input type="checkbox"/>	0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. _____	0	<input type="checkbox"/>	0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
3. _____	0	<input type="checkbox"/>	0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	Definition of Vegetation Strata:
6. _____	0	<input type="checkbox"/>	0.0%	_____	Four Vegetation Strata:
7. _____	0	<input type="checkbox"/>	0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
	0	= Total Cover			Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb Stratum (Plot size: _____)					Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
1. <u>Medicago sativa</u>	80	<input checked="" type="checkbox"/>	100.0%	UPL	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	Five Vegetation Strata:
4. _____	0	<input type="checkbox"/>	0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
5. _____	0	<input type="checkbox"/>	0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
6. _____	0	<input type="checkbox"/>	0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7. _____	0	<input type="checkbox"/>	0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
8. _____	0	<input type="checkbox"/>	0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
	0	= Total Cover			Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Woody Vine Stratum (Plot size: _____)	80	= Total Cover			
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
	0	= Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-001
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.49644 Long.: -83.66915 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-001

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>75</u> x 5 = <u>375</u>
	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>75</u> (A) <u>375</u> (B)
Sapling-Sapling/Shrub Stratum (Plot size: _____)	0 = Total Cover			Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
10. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
Shrub Stratum (Plot size: _____)	0 = Total Cover			Five Vegetation Strata:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)	0 = Total Cover			
1. <u>Medicago sativa</u>	75	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)	75 = Total Cover			
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-002
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.49427 Long.: -83.67131 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Drift deposits (B3)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____																																			
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-002

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:		
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)		
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)		
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)		
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:		
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____		
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>		
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>		
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>		
= Total Cover				FACU species <u>25</u> x 4 = <u>100</u>		
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>80</u> x 5 = <u>400</u>		
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>105</u> (A) <u>500</u> (B)		
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.762</u>		
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:		
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation		
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%		
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹		
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)		
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:		
= Total Cover				Four Vegetation Strata:		
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
1. <u>Rubus occidentalis</u>	20	<input checked="" type="checkbox"/> 100.0%	UPL	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.		
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.		
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:		
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.		
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.		
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.		
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>		
11. _____	0	<input type="checkbox"/> 0.0%	_____			
12. _____	0	<input type="checkbox"/> 0.0%	_____			
= Total Cover						
Woody Vine Stratum (Plot size: _____)						
1. _____	0	<input type="checkbox"/> 0.0%	_____			
2. _____	0	<input type="checkbox"/> 0.0%	_____			
3. _____	0	<input type="checkbox"/> 0.0%	_____			
4. _____	0	<input type="checkbox"/> 0.0%	_____			
5. _____	0	<input type="checkbox"/> 0.0%	_____			
6. _____	0	<input type="checkbox"/> 0.0%	_____			
= Total Cover						

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100					

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-003
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48631 Long.: -83.65212 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-003

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>5</u> x 1 = <u>5</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>10</u> x 4 = <u>40</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>80</u> x 5 = <u>400</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>95</u> (A) <u>445</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.684</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	95 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 07-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-004
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48642 Long.: -83.65514 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-004

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>40</u> x 4 = <u>160</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>80</u> x 5 = <u>400</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>120</u> (A) <u>560</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.667</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	120 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-005
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48305 Long.: -83.64731 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/2	98	10YR	4/6	20	C	M	Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-006
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48323 Long.: -83.65025 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																																		
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-006

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
_____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>85</u> x 4 = <u>340</u> UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>130</u> (A) <u>505</u> (B) Prevalence Index = B/A = <u>3.885</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Shrub Stratum (Plot size: _____)				
1. <u>Rubus occidentalis</u>	15	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
_____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
Herb Stratum (Plot size: _____)				
1. <u>Glechoma hederacea</u>	40	<input checked="" type="checkbox"/> 34.8%	FACU	
2. <u>Solidago canadensis</u>	25	<input checked="" type="checkbox"/> 21.7%	FACU	
3. <u>Allium vineale</u>	20	<input type="checkbox"/> 17.4%	FACU	
4. <u>Symphotrichum pilosum</u>	20	<input type="checkbox"/> 17.4%	FAC	
5. <u>Ambrosia trifida</u>	10	<input type="checkbox"/> 8.7%	FAC	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-007
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48301 Long.: -83.6503 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-007

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>75</u> x 1 = <u>75</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>15</u> x 2 = <u>30</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>15</u> x 3 = <u>45</u>
	0 = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>105</u> (A) <u>150</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>1.429</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				
1. <i>Carex vulpinoidea</i>	50	<input checked="" type="checkbox"/> 47.6%	OBL	
2. <i>Symphotrichum pilosum</i>	15	<input type="checkbox"/> 14.3%	FAC	
3. <i>Persicaria sagittata</i>	25	<input checked="" type="checkbox"/> 23.8%	OBL	
4. <i>Symphotrichum lanceolatum</i>	15	<input type="checkbox"/> 14.3%	FACW	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)	105			
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/2	93	10YR	4/6	7	C	M	Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input checked="" type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</p> <p><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-008
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48312 Long.: -83.64727 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-009
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48197 Long.: -83.64781 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input checked="" type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
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<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	

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

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-009

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>20</u> x 3 = <u>60</u>
	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>40</u> x 4 = <u>160</u>
	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>25</u> x 5 = <u>125</u>
	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>85</u> (A) <u>345</u> (B)
	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.059</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
8. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Shrub Stratum (Plot size: _____)				
1. <u>Lonicera maackii</u>	25	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
	25	= Total Cover		
Herb Stratum (Plot size: _____)				
1. <u>Solidago canadensis</u>	40	<input checked="" type="checkbox"/> 66.7%	FACU	
2. <u>Symphotrichum pilosum</u>	20	<input checked="" type="checkbox"/> 33.3%	FAC	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	60	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-010
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48429 Long.: -83.6707 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-010

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>80</u> x 1 = <u>80</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>50</u> x 2 = <u>100</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>0</u> x 5 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>130</u> (A) <u>180</u> (B)
	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>1.385</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Dominance Test is > 50%
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
8. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
1. <u>Rosa palustris</u>	15	<input checked="" type="checkbox"/> 100.0%	OBL	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	115	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				
1. <u>Carex vulpinoidea</u>	40	<input checked="" type="checkbox"/> 34.8%	OBL	
2. <u>Juncus effusus</u>	25	<input checked="" type="checkbox"/> 21.7%	FACW	
3. <u>Scirpus atrocinctus</u>	25	<input checked="" type="checkbox"/> 21.7%	FACW	
4. <u>Glyceria striata</u>	25	<input checked="" type="checkbox"/> 21.7%	OBL	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	115	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	<input type="checkbox"/> 0.0%	_____	

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/2	90	10YR	4/6	10	C	M	Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR N)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input checked="" type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)</p> <p><input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148)</p> <p><input checked="" type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-011
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48429 Long.: -83.6707 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-C-011**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%		Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%		Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%		OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%		FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%		FAC species <u>35</u> x 3 = <u>105</u>
	0 = Total Cover			FACU species <u>20</u> x 4 = <u>80</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>30</u> x 5 = <u>150</u>
1. _____	0	<input type="checkbox"/> 0.0%		Column Total s: <u>85</u> (A) <u>335</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = <u>3.941</u>
3. _____	0	<input type="checkbox"/> 0.0%		Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%		Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. <u>Rubus alter</u>	30	<input checked="" type="checkbox"/> 100.0%	UPL	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%		Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%		Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%		Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%		Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%		Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%		Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%		Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
	55 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100					

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-012
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48577 Long.: -83.67118 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u>		Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-012

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>60</u> x 1 = <u>60</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>15</u> x 2 = <u>30</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>15</u> x 5 = <u>75</u>
	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>90</u> (A) <u>165</u> (B)
Sapling-Sapling/Shrub Stratum (Plot size: _____)	0 = Total Cover			Prevalence Index = B/A = <u>1.833</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Dominance Test is > 50%
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
10. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
Shrub Stratum (Plot size: _____)	0 = Total Cover			Five Vegetation Strata:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)	0 = Total Cover			
1. <u>Carex vulpinoidea</u>	60	<input checked="" type="checkbox"/> 66.7%	OBL	
2. <u>Amaranthus hybridus</u>	15	<input type="checkbox"/> 16.7%	UPL	
3. <u>Carex tribuloides</u>	15	<input type="checkbox"/> 16.7%	FACW	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)	90 = Total Cover			
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/2	90	10YR	4/6	10	C	M	Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-013
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48584 Long.: -83.67133 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouts complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
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WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-014
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48621 Long.: -83.67052 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

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Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-014

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>100</u> x 4 = <u>400</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>110</u> (A) <u>450</u> (B) Prevalence Index = B/A = <u>4.091</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Schedonorus arundinaceus</u>	100	<input checked="" type="checkbox"/> 90.9%	FACU	
2. <u>Amaranthus hybridus</u>	10	<input type="checkbox"/> 9.1%	UPL	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

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<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
<input type="checkbox"/> Water-Stained Leaves (B9)																																			
<input type="checkbox"/> Aquatic Fauna (B13)																																			
<input type="checkbox"/> Surface Soil Cracks (B6)																																			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																			
<input checked="" type="checkbox"/> Drainage Patterns (B10)																																			
<input type="checkbox"/> Moss Trim Lines (B16)																																			
<input type="checkbox"/> Dry Season Water Table (C2)																																			
<input type="checkbox"/> Crayfish Burrows (C8)																																			
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)																																			
<input type="checkbox"/> Stunted or Stressed Plants (D1)																																			
<input type="checkbox"/> Geomorphic Position (D2)																																			
<input type="checkbox"/> Shallow Aquitard (D3)																																			
<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-015

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	= Total Cover		Prevalence Index worksheet:
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
2. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
4. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>80</u> x 4 = <u>320</u>
5. _____	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>15</u> x 5 = <u>75</u>
6. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>95</u> (A) <u>395</u> (B)
7. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.158</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
9. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
10. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
	0	= Total Cover		<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
Shrub Stratum (Plot size: _____)				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	= Total Cover		Definition of Vegetation Strata:
Herb Stratum (Plot size: _____)				Four Vegetation Strata:
1. <u>Ambrosia artemisiifolia</u>	40	<input checked="" type="checkbox"/> 42.1%	FACU	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
2. <u>Xanthium spinosum</u>	40	<input checked="" type="checkbox"/> 42.1%	FACU	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
3. <u>Setaria faberl</u>	15	<input type="checkbox"/> 15.8%	UPL	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	95	= Total Cover		Five Vegetation Strata:
Woody Vine Stratum (Plot size: _____)				Tree - Woody plants , excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	= Total Cover		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-016
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48415 Long.: -83.66805 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>6</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/2	90	10YR	4/6	10	C	M	Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 08-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-017
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.48421 Long.: -83.66806 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)																																		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
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Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																			
Remarks:																																			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-017

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>105</u> x 5 = <u>525</u>
	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>105</u> (A) <u>525</u> (B)
Sapling-Sapling/Shrub Stratum (Plot size: _____)	0 = Total Cover			Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
10. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
Shrub Stratum (Plot size: _____)	0 = Total Cover			Five Vegetation Strata:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)	0 = Total Cover			
1. <u>Medicago sativa</u>	80	<input checked="" type="checkbox"/> 76.2%	UPL	
2. <u>Trifolium arvense</u>	25	<input checked="" type="checkbox"/> 23.8%	UPL	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)	105 = Total Cover			
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-018
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47105 Long.: -83.63956 Datum: _____
 Soil Map Unit Name: W-Water NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-018

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>80</u> x 5 = <u>400</u>
	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>80</u> (A) <u>400</u> (B)
Sapling-Sapling/Shrub Stratum (Plot size: _____)	0 = Total Cover			Prevalence Index = B/A = <u>5.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
10. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
Shrub Stratum (Plot size: _____)	0 = Total Cover			Five Vegetation Strata:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)	0 = Total Cover			
1. <u>Medicago sativa</u>	80	<input checked="" type="checkbox"/> 100.0%	UPL	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)	80 = Total Cover			
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	<input type="checkbox"/> 0.0%	_____	

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-019
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47217 Long.: -83.63989 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>12</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-019

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. <u>Platanus occidentalis</u>	40	<input checked="" type="checkbox"/>	53.3%	FACW	
2. <u>Ulmus americana</u>	30	<input checked="" type="checkbox"/>	40.0%	FACW	
3. <u>Fraxinus pennsylvanica</u>	5	<input type="checkbox"/>	6.7%	FACW	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
75 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>150</u> x 2 = <u>300</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>195</u> (A) <u>405</u> (B) Prevalence Index = B/A = <u>2.077</u>
1. <u>Ulmus americana</u>	10	<input checked="" type="checkbox"/>	100.0%	FACW	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
10 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Calamagrostis canadensis</u>	65	<input checked="" type="checkbox"/>	59.1%	FACW	
2. <u>Carex blanda</u>	30	<input checked="" type="checkbox"/>	27.3%	FAC	
3. <u>Packera glabella</u>	15	<input type="checkbox"/>	13.6%	OBL	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/3	95	10YR	4/6	5	C	M	Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-020
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47205 Long.: -83.64006 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: **DP-C-020**

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>80</u> x 5 = <u>400</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>80</u> (A) <u>400</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>5.000</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			
Woody Vine Stratum (Plot size: _____)	80	<input checked="" type="checkbox"/> 100.0%	UPL	
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/4	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-021
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47148 Long.: -83.63886 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-021

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>10</u> x 3 = <u>30</u>
	0 = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>80</u> x 5 = <u>400</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>90</u> (A) <u>430</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.778</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				
1. <u>Medicago sativa</u>	80	<input checked="" type="checkbox"/> 88.9%	UPL	
2. <u>Carex blanda</u>	10	<input type="checkbox"/> 11.1%	FAC	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-022
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46988 Long.: -83.64053 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-022

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>65</u> x 1 = <u>65</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>25</u> x 2 = <u>50</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
9. _____	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
10. _____	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>0</u> x 5 = <u>0</u>
11. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>90</u> (A) <u>115</u> (B)
12. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>1.278</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Dominance Test is > 50%
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
8. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
Shrub Stratum (Plot size: _____)				Five Vegetation Strata:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				
1. <u>Leersia oryzoides</u>	65	<input checked="" type="checkbox"/> 72.2%	OBL	
2. <u>Epilobium coloratum</u>	25	<input checked="" type="checkbox"/> 27.8%	FACW	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	4/3	93	10YR	4/6	7	C	M	Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-023
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46988 Long.: -83.64053 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-023

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	FACU species <u>0</u> x 4 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	UPL species <u>0</u> x 5 = <u>0</u>
	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>0</u> (A) <u>0</u> (B)
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index = B/A = <u>0.000</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
2. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
3. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
9. _____	0	<input type="checkbox"/> 0.0%	_____	Four Vegetation Strata:
10. _____	0	<input type="checkbox"/> 0.0%	_____	Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
12. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
Shrub Stratum (Plot size: _____)				Five Vegetation Strata:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
6. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0	<input type="checkbox"/> 0.0%	_____	

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-024
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47096 Long.: -83.64312 Datum: _____
 Soil Map Unit Name: Ma-McGary silt loam NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

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

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

Remarks:

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-21	10YR	5/2	90	10YR	5/8	10	C	M	Clay Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-025
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47092 Long.: -83.64315 Datum: _____
 Soil Map Unit Name: Ma-McGary silt loam NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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Depth (inches)	Matrix		Redox Features				Texture	Remarks
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0-21	10YR	5/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-026
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47276 Long.: -83.64366 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-026

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>120</u> x 4 = <u>480</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>120</u> (A) <u>480</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>4.000</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: _____)				
1. <u>Xanthium spinosum</u>	55	<input checked="" type="checkbox"/> 45.8%	FACU	
2. <u>Poa pratensis</u>	65	<input checked="" type="checkbox"/> 54.2%	FACU	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)	120			
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-027
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47551 Long.: -83.6468 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)																																		
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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)																																		
<input type="checkbox"/> Iron Deposits (B5)																																			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)																																			
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<input type="checkbox"/> Microtopographic Relief (D4)																																			
<input type="checkbox"/> FAC-neutral Test (D5)																																			

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-027

	Absolute % Cover		Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)					Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)
1. <u>Celtis occidentalis</u>	40	<input checked="" type="checkbox"/>	50.0%	FACU	
2. <u>Platanus occidentalis</u>	20	<input checked="" type="checkbox"/>	25.0%	FACW	
3. <u>Juglans nigra</u>	20	<input checked="" type="checkbox"/>	25.0%	FACU	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
80 = Total Cover					
Sapling-Sapling/Shrub Stratum (Plot size: _____)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>120</u> x 4 = <u>480</u> UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>195</u> (A) <u>675</u> (B) Prevalence Index = B/A = <u>3.462</u>
1. <u>Celtis occidentalis</u>	15	<input checked="" type="checkbox"/>	100.0%	FACU	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
15 = Total Cover					
Shrub Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera maackii</u>	15	<input checked="" type="checkbox"/>	100.0%	UPL	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
15 = Total Cover					
Herb Stratum (Plot size: _____)					Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Elymus virginicus</u>	40	<input checked="" type="checkbox"/>	47.1%	FACW	
2. <u>Solidago canadensis</u>	25	<input checked="" type="checkbox"/>	29.4%	FACU	
3. <u>Allium vineale</u>	20	<input checked="" type="checkbox"/>	23.5%	FACU	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
7. _____	0	<input type="checkbox"/>	0.0%	_____	
8. _____	0	<input type="checkbox"/>	0.0%	_____	
9. _____	0	<input type="checkbox"/>	0.0%	_____	
10. _____	0	<input type="checkbox"/>	0.0%	_____	
11. _____	0	<input type="checkbox"/>	0.0%	_____	
12. _____	0	<input type="checkbox"/>	0.0%	_____	
85 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	0	<input type="checkbox"/>	0.0%	_____	
2. _____	0	<input type="checkbox"/>	0.0%	_____	
3. _____	0	<input type="checkbox"/>	0.0%	_____	
4. _____	0	<input type="checkbox"/>	0.0%	_____	
5. _____	0	<input type="checkbox"/>	0.0%	_____	
6. _____	0	<input type="checkbox"/>	0.0%	_____	
0 = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	45/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-028
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47491 Long.: -83.64852 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-028

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>15</u> x 3 = <u>45</u>
	0 = Total Cover			FACU species <u>50</u> x 4 = <u>200</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>65</u> (A) <u>245</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>3.769</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	65 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	5/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-029
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47199 Long.: -83.64758 Datum: _____
 Soil Map Unit Name: BeC2-Beasley silty clay loam, 6 to 12 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-030
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.47073 Long.: -83.64821 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-030

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Sapling-Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>55</u> x 4 = <u>220</u> UPL species <u>0</u> x 5 = <u>0</u> Column Total s: <u>70</u> (A) <u>265</u> (B) Prevalence Index = B/A = <u>3.786</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Poa pratensis</u>	55	<input checked="" type="checkbox"/> 78.6%	FACU	
2. <u>Carex blanda</u>	15	<input checked="" type="checkbox"/> 21.4%	FAC	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-21	10YR	4/3	100				Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147,148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147,148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-031
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46981 Long.: -83.6451 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>6</u>		Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-031

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index worksheet:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Total % Cover of: _____ Multiply by: _____
6. _____	0	<input type="checkbox"/> 0.0%	_____	OBL species <u>65</u> x 1 = <u>65</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____	FACW species <u>15</u> x 2 = <u>30</u>
8. _____	0	<input type="checkbox"/> 0.0%	_____	FAC species <u>0</u> x 3 = <u>0</u>
	0 = Total Cover			FACU species <u>0</u> x 4 = <u>0</u>
Sapling-Sapling/Shrub Stratum (Plot size: _____)				UPL species <u>0</u> x 5 = <u>0</u>
1. _____	0	<input type="checkbox"/> 0.0%	_____	Column Totals: <u>80</u> (A) <u>95</u> (B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	Prevalence Index = B/A = <u>1.188</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators:
4. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation
5. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Dominance Test is > 50%
6. _____	0	<input type="checkbox"/> 0.0%	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
7. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	0	<input type="checkbox"/> 0.0%	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	0	<input type="checkbox"/> 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Definition of Vegetation Strata:
	0 = Total Cover			Four Vegetation Strata:
Shrub Stratum (Plot size: _____)				Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
1. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
2. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.
3. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines greater than 3.28 ft in height.
4. _____	0	<input type="checkbox"/> 0.0%	_____	Five Vegetation Strata:
5. _____	0	<input type="checkbox"/> 0.0%	_____	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
6. _____	0	<input type="checkbox"/> 0.0%	_____	Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
7. _____	0	<input type="checkbox"/> 0.0%	_____	Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8. _____	0	<input type="checkbox"/> 0.0%	_____	Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height.
9. _____	0	<input type="checkbox"/> 0.0%	_____	Woody vines – Consists of all woody vines, regardless of height.
10. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
	80 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
	0 = Total Cover			

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features				Texture	Remarks	
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²			
0-21	10YR	5/3	95	10YR	5/6	5	C	M	Loam	

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147,148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Humming Bird Solar Project City/County: Flemingsburg/Fleming Sampling Date: 09-Dec-21
 Applicant/Owner: Recurrent Energy State: KY Sampling Point: DP-C-032
 Investigator(s): K. Hillier, M. Reed Section, Township, Range: S T R
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): MLRA 121 in LRR N Lat.: 38.46897 Long.: -83.64465 Datum: _____
 Soil Map Unit Name: BhE3-Beasley-Shrouds complex, rocky, 12 to 30 percent slopes, severely erod NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

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

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: DP-C-032

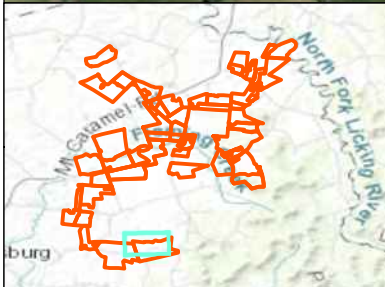
Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:			
1. <u>Acer negundo</u>	80	<input checked="" type="checkbox"/> 100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)			
2. _____	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: <u>2</u> (B)			
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)			
4. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>95</u> x 3 = <u>285</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>95</u> (A) <u>285</u> (B) Prevalence Index = B/A = <u>3.000</u>			
5. _____	0	<input type="checkbox"/> 0.0%					
6. _____	0	<input type="checkbox"/> 0.0%					
7. _____	0	<input type="checkbox"/> 0.0%					
8. _____	0	<input type="checkbox"/> 0.0%					
80 = Total Cover							
Sapling-Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status			Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>Acer negundo</u>	15	<input checked="" type="checkbox"/> 100.0%	FAC				
2. _____	0	<input type="checkbox"/> 0.0%					
3. _____	0	<input type="checkbox"/> 0.0%					
4. _____	0	<input type="checkbox"/> 0.0%					
5. _____	0	<input type="checkbox"/> 0.0%					
6. _____	0	<input type="checkbox"/> 0.0%					
7. _____	0	<input type="checkbox"/> 0.0%					
8. _____	0	<input type="checkbox"/> 0.0%					
9. _____	0	<input type="checkbox"/> 0.0%					
10. _____	0	<input type="checkbox"/> 0.0%					
15 = Total Cover							
Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. Five Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.			
1. _____	0	<input type="checkbox"/> 0.0%					
2. _____	0	<input type="checkbox"/> 0.0%					
3. _____	0	<input type="checkbox"/> 0.0%					
4. _____	0	<input type="checkbox"/> 0.0%					
5. _____	0	<input type="checkbox"/> 0.0%					
7. _____	0	<input type="checkbox"/> 0.0%					
0 = Total Cover							
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>			
1. _____	0	<input type="checkbox"/> 0.0%					
2. _____	0	<input type="checkbox"/> 0.0%					
3. _____	0	<input type="checkbox"/> 0.0%					
4. _____	0	<input type="checkbox"/> 0.0%					
5. _____	0	<input type="checkbox"/> 0.0%					
6. _____	0	<input type="checkbox"/> 0.0%					
7. _____	0	<input type="checkbox"/> 0.0%					
8. _____	0	<input type="checkbox"/> 0.0%					
9. _____	0	<input type="checkbox"/> 0.0%					
10. _____	0	<input type="checkbox"/> 0.0%					
11. _____	0	<input type="checkbox"/> 0.0%					
12. _____	0	<input type="checkbox"/> 0.0%					
0 = Total Cover							
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status				
1. _____	0	<input type="checkbox"/> 0.0%					
2. _____	0	<input type="checkbox"/> 0.0%					
3. _____	0	<input type="checkbox"/> 0.0%					
4. _____	0	<input type="checkbox"/> 0.0%					
5. _____	0	<input type="checkbox"/> 0.0%					
6. _____	0	<input type="checkbox"/> 0.0%					
0 = Total Cover							
Remarks: (Include photo numbers here or on a separate sheet.)							

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

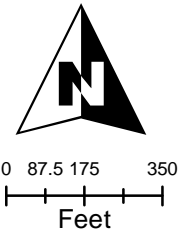
APPENDIX

D

POTENTIAL BAT ROOSTING TREES



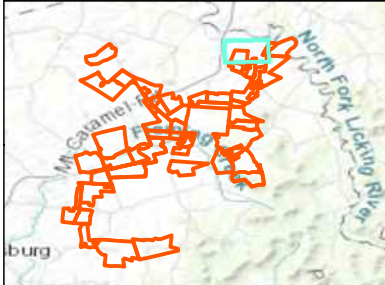
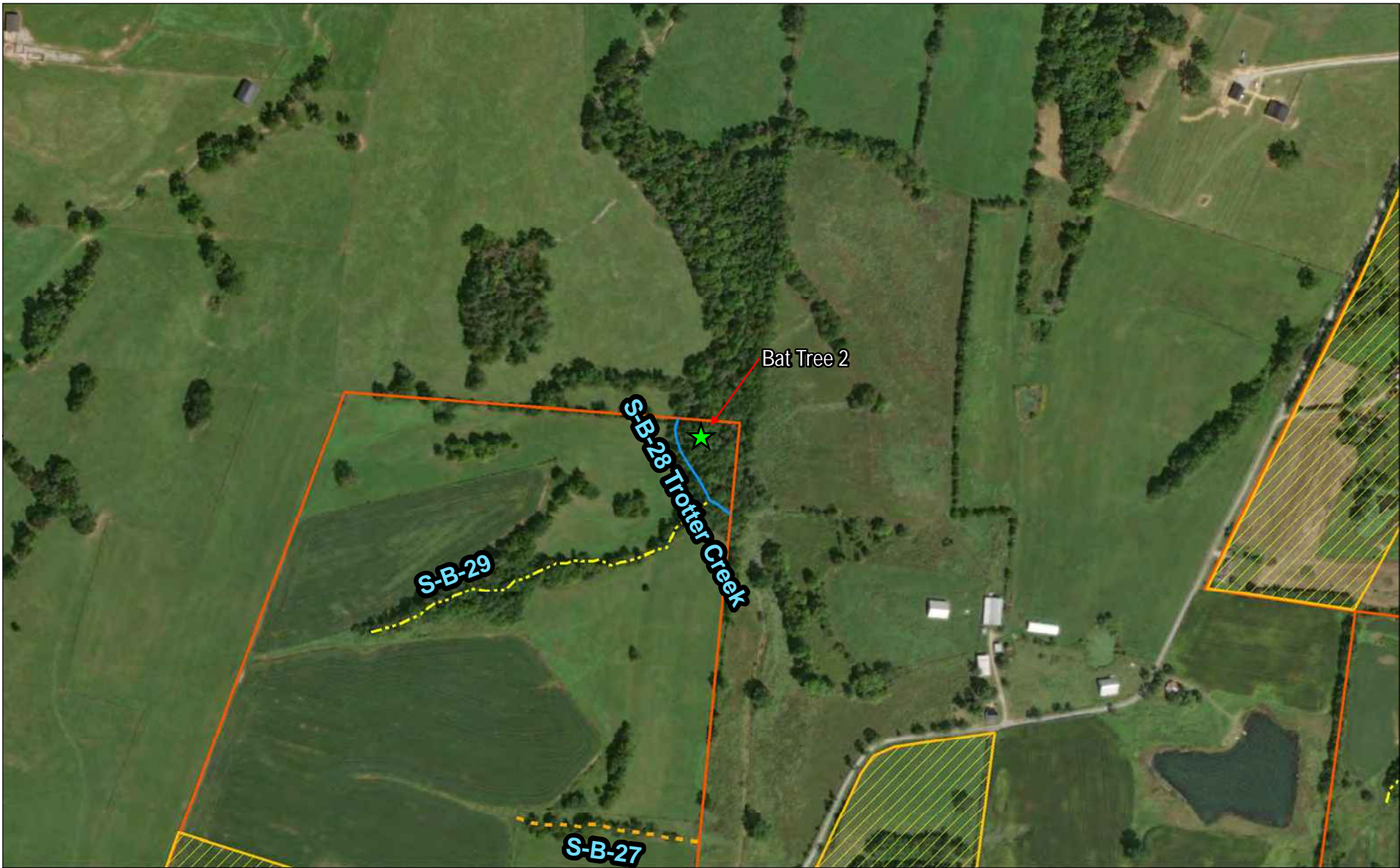
- ★ Bat Trees
- Project Boundary
- Excluded Parcels (No Access)
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PUB Wetland



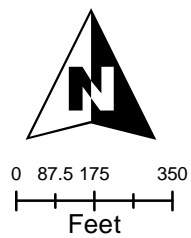
Hummingbird Solar
Environmental Resource Assessment
Fleming County, Kentucky

Potential Bat Roosting Trees

Date: December 2021	Project No: E320201702	Appendix: D-1
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- ★ Bat Trees
- Project Boundary
- Excluded Parcels (No Access)
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- PEM Wetland
- PFO Wetland
- PUB Wetland



Hummingbird Solar
Environmental Resource Assessment
Fleming County, Kentucky

Potential Bat Roosting Trees

Date: December 2021	Project No: E320201702	Appendix: D-2
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APPENDIX

E

BAT DATASHEETS

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

INDIANA BAT HABITAT ASSESSMENT DATASHEET

Project Name: [REDACTED] Date: [REDACTED]

Township/Range/Section: _____

Lat Long/UTM/ Zone: [REDACTED]

Surveyor: [REDACTED]

Brief Project Description

[REDACTED]

Project Area

	Total Acres	Forest Acres		Open Acres
Project	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Proposed Tree Removal (ac)	Completely cleared	Partially cleared (will leave trees)	Preserve acres- no clearing	

Vegetation Cover Types

Pre-Project	Post-Project
Agriculture with small intermittent wooded patches and other undeveloped areas	

Landscape within 5 mile radius

Flight corridors to other forested areas?
[REDACTED]

Describe Adjacent Properties (e.g. forested, grassland, commercial or residential development, water sources)
Rural residential, agricultural and forested/riparian areas.

Proximity to Public Land

What is the distance (mi.) from the project area to forested public lands (e.g., national or state forests, national or state parks, conservation areas, wildlife management areas)?
[REDACTED]

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

Use additional sheets to assess discrete habitat types at multiple sites in a project area

*Include a map depicting locations of sample sites if assessing discrete habitats at multiple sites in a project area
A single sheet can be used for multiple sample sites if habitat is the same*

Sample Site Description
Sample Site No.(s): <u>BAT-01</u>

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral	Intermittent	Perennial	Describe existing condition of water sources: Flowing stream, clear water, rocky stream bed
		3,163		
Pools/Ponds (# and size)		Open and accessible to bats?		
Wetlands (approx. ac.)	Permanent	Seasonal		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81-100%
	2	3	1	
Dominant Species of Mature Trees	Sweetgum, sycamore, juniper,			
% Trees w/ Exfoliating Bark	0	0	0	
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
	50	10	5	
No. of Suitable Snags	1			

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? No

Additional Comments:

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources

APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS

INDIANA BAT HABITAT ASSESSMENT DATASHEET

Project Name: [REDACTED] Date: [REDACTED]

Township/Range/Section: _____

Lat Long/UTM/ Zone: [REDACTED]

Surveyor: [REDACTED]

Brief Project Description

[REDACTED]

Project Area

	Total Acres	Forest Acres		Open Acres
Project	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Proposed Tree Removal (ac)	Completely cleared	Partially cleared (will leave trees)	Preserve acres- no clearing	

Vegetation Cover Types

Pre-Project	Post-Project
Agriculture with small intermittent wooded patches and other undeveloped areas	

Landscape within 5 mile radius

Flight corridors to other forested areas?
[REDACTED]

Describe Adjacent Properties (e.g. forested, grassland, commercial or residential development, water sources)
Rural residential, agricultural and forested/riparian areas.

Proximity to Public Land

What is the distance (mi.) from the project area to forested public lands (e.g., national or state forests, national or state parks, conservation areas, wildlife management areas)?
[REDACTED]

**APPENDIX A
PHASE 1 SUMMER HABITAT ASSESSMENTS**

Use additional sheets to assess discrete habitat types at multiple sites in a project area

*Include a map depicting locations of sample sites if assessing discrete habitats at multiple sites in a project area
A single sheet can be used for multiple sample sites if habitat is the same*

Sample Site Description
Sample Site No.(s): <u>BAT-02</u>

Water Resources at Sample Site				
Stream Type (# and length)	Ephemeral	Intermittent	Perennial 379	Describe existing condition of water sources: Flowing stream, clear water, rocky stream bed
Pools/Ponds (# and size)	Open and accessible to bats?			
Wetlands (approx. ac.)	Permanent	Seasonal		

Forest Resources at Sample Site				
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (<20')	1=1-10%, 2=11-20%, 3=21-40%, 4=41-60%, 5=61-80%, 6=81-100%
	2	2	2	
Dominant Species of Mature Trees	Sweetgum, sycamore, American elm			
% Trees w/ Exfoliating Bark	0	0	0	
Size Composition of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (>15 in)	
	40	10	5	
No. of Suitable Snags	1			

Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.

IS THE HABITAT SUITABLE FOR INDIANA BATS? No

Additional Comments:

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources

APPENDIX

F

USFWS IPAC & KDFWR SPECIES
LIST



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0468 Fax: (502) 695-1024
<http://www.fws.gov/frankfort/>

In Reply Refer To:

December 01, 2021

Consultation Code: 04EK1000-2022-SLI-0201

Event Code: 04EK1000-2022-E-00795

Project Name: Hummingbird Solar

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Your concern for the protection of endangered and threatened species is greatly appreciated. The purpose of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.) (ESA) is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. The species list attached to this letter fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the ESA to provide information as to whether any proposed or listed species may be present in the area of a proposed action. This is not a concurrence letter; additional consultation with the Service may be required.

The Information in Your Species List:

The enclosed species list identifies federal trust species and critical habitat that may occur within the boundary that you entered into IPaC. For your species list to most accurately represent the species that may potentially be affected by the proposed project, the boundary that you input into IPaC should represent the entire “action area” of the proposed project by considering all the potential “effects of the action,” including potential direct, indirect, and cumulative effects, to federally-listed species or their critical habitat as defined in 50 CFR 402.02. This includes effects of any “interrelated actions” that are part of a larger action and depend on the larger action for their justification and “interdependent actions” that have no independent utility apart from the action under consideration (e.g.; utilities, access roads, etc.) and future actions that are reasonably certain to occur as a result of the proposed project (e.g.; development in response to a new road). If your project is likely to have significant indirect effects that extend well beyond the project footprint (e.g., long-term impacts to water quality), we highly recommend that you

coordinate with the Service early to appropriately define your action area and ensure that you are evaluating all the species that could potentially be affected.

We must advise you that our database is a compilation of collection records made available by various individuals and resource agencies available to the Service and may not be all-inclusive. This information is seldom based on comprehensive surveys of all potential habitats and, thus, does not necessarily provide conclusive evidence that species are present or absent at a specific locality. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please note that “critical habitat” refers to specific areas identified as essential for the conservation of a species that have been designated by regulation. Critical habitat usually does not include all the habitat that the species is known to occupy or all the habitat that may be important to the species. Thus, even if your project area does not include critical habitat, the species on the list may still be present.

Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and associated information. To re-access your project in IPaC, go to the IPaC web site (<https://ecos.fws.gov/ipac/>), select “Need an updated species list?”, and enter the consultation code on this letter.

ESA Obligations for Federal Projects:

Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

If a Federal project (a project authorized, funded, or carried out by a federal agency) may affect federally-listed species or critical habitat, the Federal agency is required to consult with the Service under section 7 of the ESA, pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). Recommended contents of a Biological Assessment are described at 50 CFR 402.12. For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat.

ESA Obligations for Non-federal Projects:

Proposed projects that do not have a federal nexus (non-federal projects) are not subject to the obligation to consult under section 7 of the ESA. However, section 9 of the ESA prohibits certain activities that directly or indirectly affect federally-listed species. These prohibitions apply to all individuals subject to the jurisdiction of the United States. Non-federal project proponents can request technical assistance from the Service regarding recommendations on how to avoid and/or minimize impacts to listed species. The project proponent can choose to implement avoidance, minimization, and mitigation measures in a proposed project design to avoid ESA violations.

Additional Species-specific Information:

In addition to the species list, IPaC also provides general species-specific technical assistance that may be helpful when designing a project and evaluating potential impacts to species. To access this information from the IPaC site (<https://ecos.fws.gov/ipac/>), click on the text “My Projects” on the left of the black bar at the top of the screen (you will need to be logged into your account to do this). Click on the project name in the list of projects; then, click on the “Project Home” button that appears. Next, click on the “See Resources” button under the “Resources” heading. A list of species will appear on the screen. Directly above this list, on the right side, is a link that will take you to pdfs of the “Species Guidelines” available for species in your list. Alternatively, these documents and a link to the “ECOS species profile” can be accessed by clicking on an individual species in the online resource list.

Next Steps:

Requests for additional technical assistance or consultation from the Kentucky Field Office should be submitted following guidance on the following page <http://www.fws.gov/frankfort/PreDevelopment.html> and the document retrieved by clicking the “outline” link at that page. When submitting correspondence about your project to our office, please include the Consultation Tracking Number in the header of this letter. (There is no need to provide us with a copy of the IPaC-generated letter and species list.)

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kentucky Ecological Services Field Office

J C Watts Federal Building, Room 265

330 West Broadway

Frankfort, KY 40601-8670

(502) 695-0468

Project Summary

Consultation Code: 04EK1000-2022-SLI-0201

Event Code: Some(04EK1000-2022-E-00795)

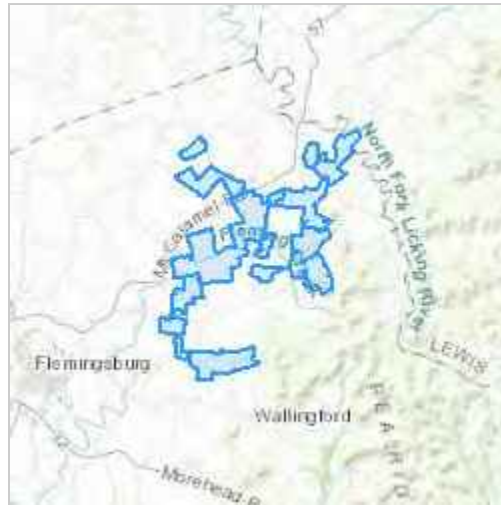
Project Name: Hummingbird Solar

Project Type: POWER GENERATION

Project Description: Solar Farm

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.4260055,-83.6547333090909,14z>



Counties: Fleming and Lewis counties, Kentucky

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 3 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.
-

Mammals

NAME	STATUS
<p>Gray Bat <i>Myotis grisescens</i></p> <p>No critical habitat has been designated for this species. This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ The project area includes potential gray bat habitat. <p>Species profile: https://ecos.fws.gov/ecp/species/6329 General project design guidelines: https://ecos.fws.gov/ipac/project/C5EIJFI5ARFWFDZIYPJESTSK3Q/documents/generated/6422.pdf</p>	Endangered
<p>Indiana Bat <i>Myotis sodalis</i></p> <p>There is final critical habitat for this species. Your location overlaps the critical habitat. This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ The project area includes 'potential' habitat. All activities in this location should consider possible effects to this species. <p>Species profile: https://ecos.fws.gov/ecp/species/5949 General project design guidelines: https://ecos.fws.gov/ipac/project/C5EIJFI5ARFWFDZIYPJESTSK3Q/documents/generated/6422.pdf</p>	Endangered
<p>Northern Long-eared Bat <i>Myotis septentrionalis</i></p> <p>No critical habitat has been designated for this species. This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ The specified area includes areas in which incidental take would not be prohibited under the 4(d) rule. For reporting purposes, please use the "streamlined consultation form," linked to in the "general project design guidelines" for the species. <p>Species profile: https://ecos.fws.gov/ecp/species/9045 General project design guidelines: https://ecos.fws.gov/ipac/project/C5EIJFI5ARFWFDZIYPJESTSK3Q/documents/generated/6422.pdf</p>	Threatened

Clams

NAME	STATUS
<p>Pink Mucket (pearlymussel) <i>Lampsilis abrupta</i></p> <p>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7829 General project design guidelines: https://ecos.fws.gov/ipac/project/C5EIJFI5ARFWFDZIYPJESTSK3Q/documents/generated/5639.pdf</p>	Endangered
<p>Snuffbox Mussel <i>Epioblasma triquetra</i></p> <p>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4135</p>	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Short's Goldenrod <i>Solidago shortii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5367	Endangered
Virginia Spiraea <i>Spiraea virginiana</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1728	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> https://ecos.fws.gov/ecp/species/5949#crithab	Final

Kentucky Division of Fish and Wildlife Resources
Threatened and Endangered Species Information

Scientific Name and Life History	Common Name and Pictures	Class	County	US Status	KY Status	WAP	Reference
<i>Fulica americana</i>	American Coot	Aves	Fleming	N	E		Reference
<i>Spatula clypeata</i>	Northern Shoveler	Aves	Fleming	N	E		Reference
<i>Circus hudsonius</i>	Northern Harrier	Aves	Fleming	N	T	Yes	Reference
<i>Spatula discors</i>	Blue-winged Teal	Aves	Fleming	N	T		Reference
<i>Cyprogenia stegaria</i>	Fanshell	Bivalvia	Fleming	E	E	Yes	Reference
<i>Epioblasma rangiana</i>	Northern Riffleshell	Bivalvia	Fleming	E	E	Yes	Reference
<i>Epioblasma triquetra</i>	Snuffbox	Bivalvia	Fleming	E	E	Yes	Reference
<i>Plethobasus cyphus</i>	Sheepnose	Bivalvia	Fleming	E	E	Yes	Reference
<i>Alasmidonta marginata</i>	Elktoe	Bivalvia	Fleming	N	T	Yes	Reference
<i>Obovaria subrotunda</i>	Round Hickorynut	Bivalvia	Fleming	N	T	Yes	Reference
<i>Dryobius sexnotatus</i>	Sixbanded Longhorn Beetle	Insecta	Fleming	N	T		Reference
<i>Myotis septentrionalis</i>	Northern Myotis	Mammalia	Fleming	T	E		Reference
<i>Myotis lucifugus</i>	Little Brown Bat	Mammalia	Fleming	N	T		Reference
<i>Perimyotis subflavus</i>	Eastern Pipistrelle	Mammalia	Fleming	N	T		Reference
<i>Rhynchospora recognita</i>	Globe Beaked rush	Plant	Fleming		S		
<i>Solidago shortii</i>	Short's Goldenrod	Plant	Fleming		E		

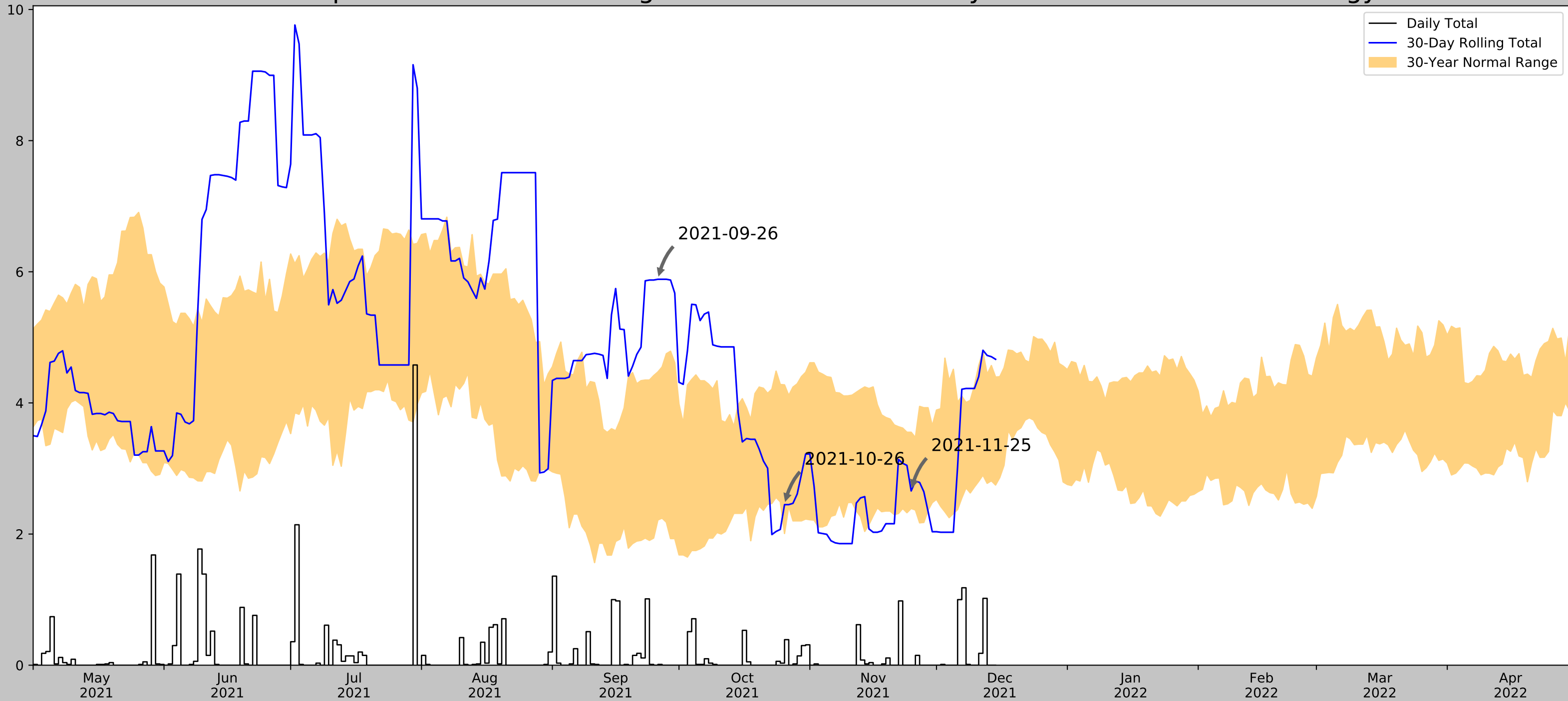
APPENDIX

G

ANTECEDENT PRECIPITATION TOOL
RESULTS

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

Rainfall (Inches)



Coordinates	38.420785, -83.731869
Observation Date	2021-11-25
Elevation (ft)	813.21
Drought Index (PDSI)	Extreme wetness
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-11-25	2.389764	3.552756	2.65748	Normal	2	3	6
2021-10-26	2.008268	4.275591	2.448819	Normal	2	2	4
2021-09-26	2.214567	4.472047	5.885827	Wet	3	1	3
Result							Normal Conditions - 13


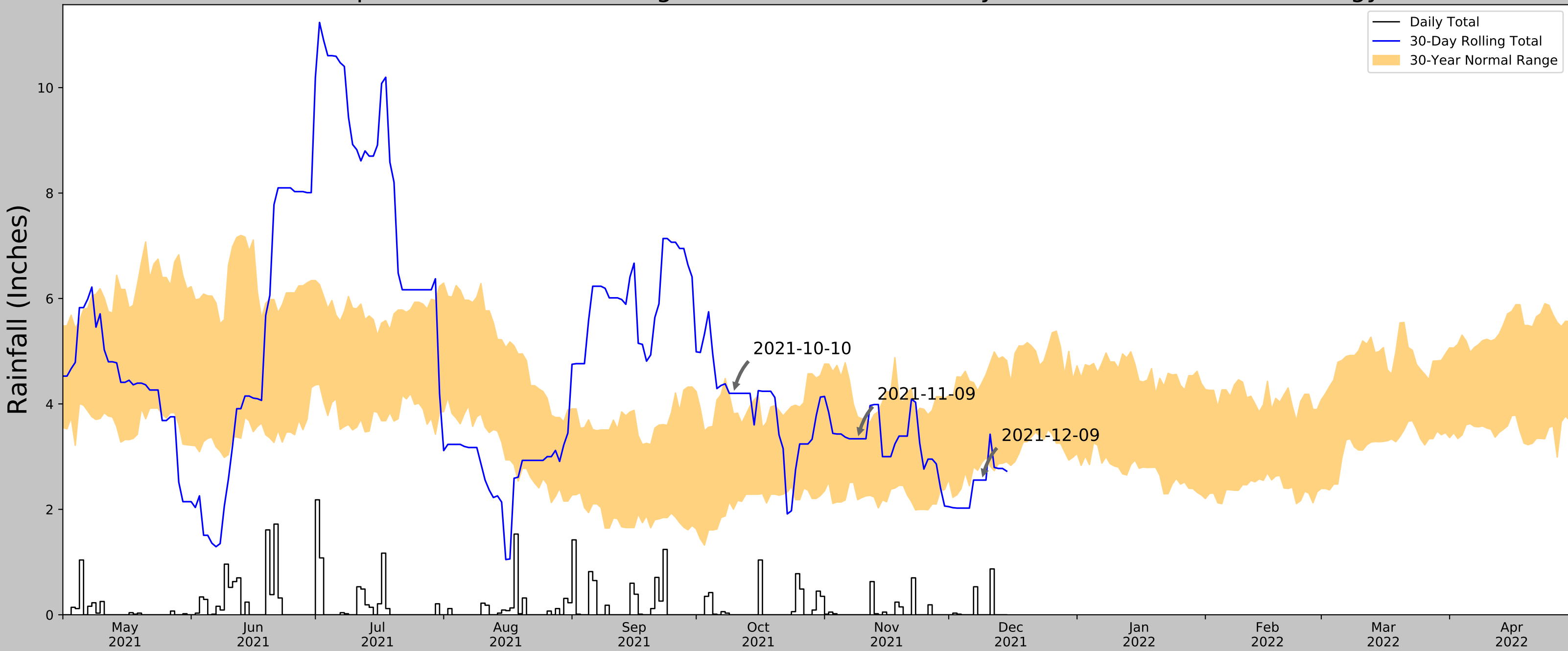


Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CAVE RUN LAKE	38.1228, -83.5328	839.895	23.249	26.685	11.082	11296	88
MOREHEAD 5.1 WSW	38.1754, -83.5346	892.06	3.636	52.165	1.826	1	0
MOREHEAD STATE POLICE	38.1864, -83.4669	759.843	5.668	80.052	3.004	48	0
MOREHEAD 6.4 NE	38.2429, -83.3449	859.908	13.153	20.013	6.182	7	2
MT STERLING	38.0583, -83.9333	959.974	22.23	120.079	12.673	1	0

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



Coordinates	38.420785, -83.731869
Observation Date	2021-12-09
Elevation (ft)	813.21
Drought Index (PDSI)	Extreme wetness (2021-11)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-12-09	2.885827	4.395669	2.555118	Dry	1	3	3
2021-11-09	2.182677	3.753937	3.338583	Normal	2	2	4
2021-10-10	2.002756	3.813386	4.200788	Wet	3	1	3
Result							Normal Conditions - 10

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BROOKSVILLE 0.7 E	38.681, -84.0545	877.953	25.043	64.743	12.891	921	4
AUGUSTA 3.0 WSW	38.7503, -84.049	879.921	28.491	66.711	14.722	1172	0
CARLISLE 8.1 ESE	38.2488, -83.9134	985.892	15.427	172.682	9.606	1498	0
OWINGSVILLE 0.6 NNW	38.1446, -83.7636	1004.921	19.16	191.711	12.295	408	47
CYNTHIANA 8.3 ENE	38.4456, -84.1615	738.845	23.316	74.365	12.226	870	0
RIBOLT 3.0 S	38.5272, -83.5163	795.932	13.785	17.278	6.441	87	39
MOUNT STERLING 2.4 W	38.0655, -83.9881	1007.874	28.212	194.664	18.187	2	0
MAYSVILLE 6.8 SSE	38.5324, -83.7547	834.974	7.81	21.764	3.684	2	0
MOREHEAD 6.4 NE	38.2429, -83.3449	859.908	24.309	46.698	12.074	1	0
BLUE LICK SPRINGS	38.4233, -83.9983	609.908	14.423	203.302	9.423	6055	0
CAVE RUN LAKE	38.1228, -83.5328	839.895	23.249	26.685	11.082	337	0