#### **COMMONWEALTH OF KENTUCKY**

#### BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:	
ELECTRONIC APPLICATION OF KENTUCKY	)
UTILITIES COMPANY FOR A CERTIFICATE OF	)
PUBLIC CONVENIENCE AND NECESSITY FOR	) CASE NO. 2022-00066
THE CONSTRUCTION OF TRANSMISSION	)

FACILITIES IN HARDIN COUNTY, KENTUCKY

# RESPONSE OF KENTUCKY UTILITIES COMPANY TO WADE FAMILY FARM MANAGEMENT, LLC'S POST-HEARING DATA REQUESTS DATED JUNE 3, 2022

**FILED: JUNE 10, 2022** 

#### VERIFICATION

COMMONWEALTH OF KENTUCKY	
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COUNTY OF JEFFERSON	

The undersigned, Elizabeth J. McFarland, being duly sworn, deposes and says that she is Vice President, Transmission, for Kentucky Utilities Company and an employee of LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge, and belief.

Elizabeth J. McFarland

Subscribed and sworn to before me, a Notary Public in and before said County

and State, this 7th day of \_\_\_\_\_

2022.

Notary Public

Notary Public ID No. 603967

My Commission Expires:

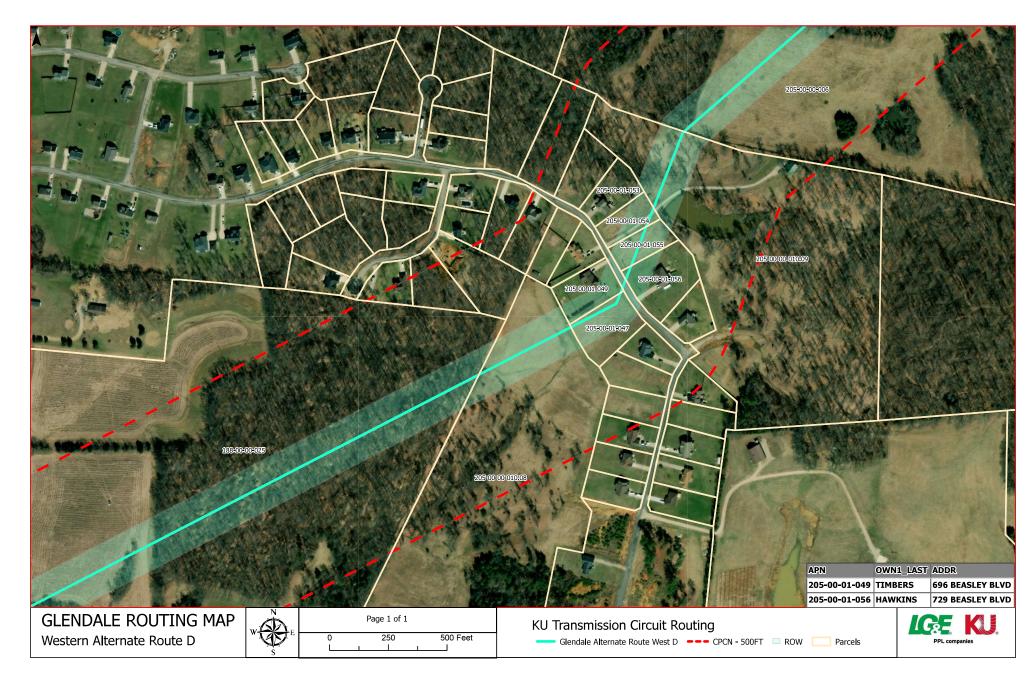
July 11, 2023

## Response to Wade Family Farm Management, LLC's Post-Hearing Data Requests Dated June 3, 2022

Case No. 2020-00066

#### Question No. 1

- Q-1. Please provide a detailed map of the portion of Route D on the Western 345 kV Transmission Line that identifies the two residential structures KU would have to purchase in order to construct the proposed Western 345 kV Transmission Line along Route D. Please make certain the map includes the proposed centerline, the 100' right-of-way boundaries and the 500' corridor boundaries on each side of the proposed centerline.
- A-1. See attached. The two properties are identified as parcel ID's 205-00-01-049 and 205-00-01-056.



Attachment to Response to Wade Family Farm-PH-1 Question No. 1
Page 1 of 1
McFarland

# Response to Wade Family Farm Management, LLC's Post-Hearing Data Requests Dated June 3, 2022

Case No. 2020-00066

#### Question No. 2

- Q-2. Please identify in detail the basis for having to purchase two residences in order to construct the proposed Western 345 kV Transmission Line along Route D, including the authority supporting your response.
- A-2. See the response to Commission Staff's Post-Hearing Request for Information Question No. 7.

## Response to Wade Family Farm Management, LLC's Post-Hearing Data Requests Dated June 3, 2022

Case No. 2020-00066

#### Question No. 3

- Q-3. Please provide any and all documentation of any kind that is in KU's custody, possession or control that arises from or relates to the determination of values and weights assigned to the perspectives, layers and features of the siting model used in this case.
- As Ms. McFarland testified at the June 1, 2022 evidentiary hearing, the A-3. determination of values and weights assigned was made through a collaborative effort involving Team Spatial and KU in verbal discussions. Having said that, KU has identified the attached December 6, 2021 e-mail between Team Spatial and KU employee David Todd that speaks to the assignment of weights to be discussed at an upcoming meeting. For the West 345 kV line, the e-mail and its accompanying Excel file suggest a 40% weight for residences within 300' of the centerline, a 10% weight for commercial and government buildings within 300' of the centerline, and a 10% weighting for industrial buildings within 300' of the centerline in the Built Environment. Subsequent to that e-mail, the decision was made to use 50%, 5%, and 5%, respectively, as reflected at pages 55-58 of the Team Spatial Siting Study. Adjustments such as this are part of the normal process. KU has conferred with Team Spatial and has been informed that the minor weighting changes have no impact on the final recommendation that Route A is preferred over Route D in the Team Spatial Siting Study.

 From:
 Jesse Glasgow

 To:
 Todd, David

 Cc:
 Nicholas Arjona

Subject: Re: Gleandale Alternative Routes

Date: Monday, December 06, 2021 1:29:38 PM

Attachments: Glendar Glendar Stransky

EXTERNAL email. STOP and THINK before responding, clicking on links, or opening attachments.

Hi David,

We are making progress on the Glendale Alternative Route Analysis. I have two questions.

- 1. Are you and the team available to review the Alternative Route Evaluation next Monday, 12/13? We are available all day Monday except 11:45-1:15. We recommend scheduling this meeting for 2 hours. If Monday doesn't work, we can meet anytime Wednesday 12/15.
- 2. Attached are the updated siting criteria and preliminary weights we plan to use. Please review the weights and be prepared to discuss at the meeting next week. We can adjust the weights in the meeting. You will notice that in some cases the weights for the West Routes are different from the weights for the East Routes. This is because some criteria do not exist on one group of routes. For example, in the east none of the routes parallel a transmission line so that weight has been set to 0%. Please let me know if you have any questions or wish to discuss before the team meeting.

Thanks,

Jesse

Jesse Glasgow, PMP, GISP 770.508.4369 jesse@teamspatial.com www.teamspatial.com



On Mon, Nov 22, 2021 at 1:48 PM Todd, David < David. Todd@lge-ku.com > wrote:

Jesse,

I would like to make the follo	wing edits to your list of	f cost assumptions below. I have
shown my edits in red below.	If you have any question	ons, please feel free to let me know

Thanks,

#### David Todd, P.E.

Team Leader | Transmission Lines Engineer | LG&E and KU

One Quality Street, Lexington, KY 40507

**M:** 859-351-2346 | **O:** 859-367-5626

lge-ku.com

From: Jesse Glasgow < <u>jesse@teamspatial.com</u>>
Sent: Thursday, November 18, 2021 3:00 PM
To: Todd, David < <u>David.Todd@lge-ku.com</u>>

Cc: Nicholas Arjona < nicholas@teamspatial.com >; Poston, Nicholas

<Nicholas.Poston@lge-ku.com>

Subject: Gleandale Alternative Routes

EXTERNAL email. STOP and THINK before responding, clicking on links, or opening attachments.

Hi David,

We updated the alternative routes per our discussions. Please review in the web map. Please note that I shifted the westernmost route segment a little further than instructed to the west. This is to minimize the clearing around Valley Creek. Please LMK if this is not OK.

Below are the unit costs that we plan to use. Please LMK if this needs to be updated.

#### **Unit Costs:**

Construction Cost (\$1.7M/mile) (\$2.9M/mile) 0-45° Angle (\$90K) 0-3° Tangent (\$90K) 45-90° Angle (\$240K)  $3-26^{\circ}$  (\$500K) >90° Angle (\$300K)  $26-60^{\circ}$  (\$750K) no angles greater that  $60^{\circ}$  for route. On Ford property max angle is  $80^{\circ}$  and cost would be (\$400K) Clearing Cost (\$20K/Acre) (\$40K/Acre)

Transmission Line Crossings (\$400k/crossing) (\$600k/crossing)

Below are the metrics we plan to use in the alternative route evaluation. Please let me know if this needs to be adjusted.

#### **Alternative Route Evaluation Metrics:**

Residences Within the ROW Out Buildings Within the ROW Residences Within 300' of the Centerline

Projected Residences Within 300' of the Centerline Commercial and Government Buildings within 300' of the Centerline Industrial Buildings within 300' of the Centerline Agricultural Buildings within 300' of the Centerline School, Daycare, Church, Cemetery, & Park within 50' 100' of the ROW Right-of-way width is 200'; 100' either side of center line Eligible or Listed Historic structures within 600' of the Centerline

Tree Clearing (Acres) Stream / River Crossings Wetlands (Acres)

- % Parallel Railroads
- % Parallel Existing Electric Transmission Lines
- % Parallel Roads

Cost

Please let me know if you have any questions. Thanks for your help.

Jesse

Jesse Glasgow, PMP, GISP	
770.508.4369	
jesse@teamspatial.com	
www.teamspatial.com	
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	The information contained in this transmission is
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# The attachment is being provided in a separate file in Excel format.

## Response to Wade Family Farm Management, LLC's Post-Hearing Data Requests Dated June 3, 2022

Case No. 2020-00066

#### Question No. 4

- Q-4. Please provide any and all documentation of any kind that is in KU's custody, possession or control that arises from or relates to the determination of the categories and weights assigned to the expert judgment analysis used in this case.
- A-4. KU has performed a good faith and diligent search for any responsive documents and believes there are not any.

## Response to Wade Family Farm Management, LLC's Post-Hearing Data Requests Dated June 3, 2022

Case No. 2020-00066

#### Question No. 5

- Q-5. Please provide a copy of the application submitted to the U.S. Army Corps of Engineers for the project that is the subject of KU's application.
- A-5. See attached which are the documents submitted to USACE as part of the May 4, 2022 Application and additional documents that have been submitted since that time in the ongoing USACE process.



May 4, 2022

Ms. Sarah Atherton U.S. Army Corps of Engineers, Louisville District P.O. Box 59 Louisville, Kentucky 40202-0059

Re: Request for Approved Jurisdictional Determination & Nationwide Permit Determination
Glendale 345kV & 138kV Transmission Lines Project
Hardin County, Kentucky

Ms. Atherton

On behalf of LG&E-KU Energy Services Company (LG&E-KU), Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) is submitting this request for an Approved Jurisdictional Determination (AJD) for two new 345kV transmission lines (LI-167000 and LI-167444) as well as a Nationwide Permit determination for the construction of the two 345kV transmission lines and two new 138kV transmission lines (Glendale 345kV & 138kV Transmission Lines Project). The Glendale 345kV & 138kV Transmission Lines Project is located south of the unincorporated community of Glendale in Hardin County, Kentucky. A preapplication meeting was held with the USACE on February 23, 2022 and a follow-up call to discuss the findings of the wetland delineation field survey for the two 345kV transmission lines was held on March 23, 2022.

#### **Jurisdictional Determination Request**

The Survey Area for the two new 345kV transmission lines consists of a 200-foot right-of-way (ROW), totaling approximately 8.2 miles, as well as approximately 12 miles of 15-foot-wide access routes. The Survey Area encompasses approximately 216-acres.

- Approximately 26-acres of the Survey Area are located within a 1,550-acre site which
  was delineated by Third Rock Consultants LLC (Third Rock). The USACE issued an
  AJD in January 2022 (LRL-2021-443-sea) for this area. Please note Burns & McDonnell
  did not complete delineations within the approximate 26 acres previously surveyed by
  Third Rock and included in LRL-2021-443-sea.
- Approximately 0.5-acre of the Survey Area was added after the site investigations were completed. This area was added to incorporate the planned stringing of new optical ground wire (OPGW) from the existing Hardin County Substation to Structure 4 of LI-167000. Installation of the new OPGW will be conducted by a bucket truck.

At this time, we are requesting an AJD jurisdictional determination of wetlands and surface waters located within the Survey Area for the two 345kV transmission lines that were identified outside of the AJD issued under LRL-2021-443-sea. An AJD request form is provided in Attachment A.



Burns & McDonnell completed a wetland and surface water delineation on March 8-10, 2022 within the Survey Area. Wetlands and streams identified during the site investigation were delineated to the extent of the Survey Area. A summary on each identified aquatic resource is provided in the summary tables below and in the attached Wetland Delineation Report (Attachment B). In total, eight wetlands and 26 streams were identified within the Survey Area during the delineations. Streams S-3, S-14, and S-A are crossed at two separate locations within the Survey Area and each crossing is denoted with an A or B. Available mapping including topographic maps, soil, National Hydrology Dataset (NHD), Flood Insurance Rate Maps (FIRM), and a wetland and surface waters location maps are included in Appendix A of the Wetland Delineation Report. A photograph log of wetlands and streams delineated is included in Appendix C of the Wetland Delineation Report.

Table 1: Summary of Delineated Wetlands within the Survey Area

Wetland ID	Cowardin Classification <sup>a</sup>	Area of Wetland Delineated in Survey Area (acre)	Latitude	Longitude
W-1	PEMf	0.25+	37.61754364	-85.90528409
W-2	PFO	0.18+	37.62796815	-85.86308817
W-3	PEM	1.10+	37.62515079	-85.8642621
W-4	PEM	0.11+	37.62386544	-85.8649057
W-5	PEM	0.25	37.62122724	-85.86645586
W-6	PEMf	0.44	37.61245753	-85.87170138
W-7	PUB	*	37.60680484	-85.87445849
W-8	PEM	0.72+	37.60204453	-85.87774261

(a) PEMf = farmed wetland, PEM = palustrine emergent, PUB = palustrine scrub shrub, PFO = palustrine forested \*W-7 is located immediately adjacent to the Survey Area

Table 2: Summary of Delineated Streams within the Survey Area

Stream ID	Stream Classification	Length of Delineated Stream in Survey Area (feet)	Latitude	Longitude
S-1	Ephemeral	73	37.65922755	-85.9011302
S-2	Perennial	498	37.65908821	-85.90150045
S-3A	Perennial	254	37.65876197	-85.90192817

<sup>+</sup> denotes feature extends outside the Survey Area



Stream ID	Stream Classification	Length of Delineated Stream in Survey Area (feet)	Latitude	Longitude
S-3B	Perennial	218	37.63279182	-85.91047425
S-4	Intermittent	350	37.65857028	-85.90264208
S-5	Intermittent	205	37.65288849	-85.90866861
S-6	Perennial	211	37.65055373	-85.90957588
S-7	Perennial	259	37.63480556	-85.91151284
S-8	Ephemeral	331	37.6261781	-85.90770036
S-9	Ephemeral	166	37.61055885	-85.9045597
S-10	Perennial	201	37.61039304	-85.90467282
S-11	Perennial	884	37.60630365	-85.90294896
S-12	Intermittent	421	37.6069834	-85.90316496
S-13	Ephemeral	37	37.60717235	-85.90379665
S-14A	Perennial	215	37.62571494	-85.90738987
S-14B	Perennial	220	37.6277901	-85.86337264
S-15	Intermittent	578	37.6222134	-85.90528614
S-16	Intermittent	271	37.5996297	-85.87996558
S-17	Ephemeral	67	37.60001332	-85.87975572
S-18	Intermittent	296	37.62776543	-85.86308846
S-19	Ephemeral	87	37.62513037	-85.86460494
S-20	Intermittent	239	37.62038994	-85.86704162
S-21	Ephemeral	71	37.6125027	-85.87163644
S-22	Ephemeral	50	37.61234247	-85.8714037
S-23	Intermittent	257	37.60822785	-85.87407341
S-24	Intermittent	37	37.60224089	-85.87796371
S-25	Intermittent	238	37.60189243	-85.87778148
S-AA	Ephemeral	15	37.667572	-85.901649
S-AB	Ephemeral	16	37.667549	-85.902507

#### **Nationwide Permit Determination Request**

Activities associated with the construction of electric utility lines, including access roads are authorized under Nationwide Permit 57 (NWP 57), Electric Utility Line and

# Attachment 1 to Response to Wade Family Farm-PH-1 Question No. 5 Page 4 of 11 McFarland



Ms. Atherton May 4, 2022 Page 4

Telecommunications Activities. At this time access routes and disturbance areas have been identified for the construction of the Project and avoidance and minimization measures have been identified for wetlands and surface waters. A summary of the proposed temporary and permanent impacts as well as avoidance or minimization efforts for wetlands and surface waters are summarized in Tables 3 and 4, respectively, and depicted on the Wetland Impact Map in Attachment C.



#### **Table 3: Summary of Wetland Disturbance**

Wetland Number	Wetland Type <sup>a</sup>	Area of Wetland Delineated (acre) <sup>b</sup>	Temporary Wetland Disturbance Area (acre)	Permanent Wetland Disturbance Area (acre)	Latitude	Longitude	Wetland Impact Map Page	Description of Disturbance
W-1	PEMf	0.25	-		37.61754364	-85.90528409	23	None, avoided.
W-2	PFO	0.18	0.016	1-	37.62796815	-85.86308817	50	Trees within W-2 will be cut by hand, no mechanized clearing is proposed.  Temporary timber matting will be used for construction/line stringing access between Structures 24A and 25A.  W-2 will be converted from a PFO to a PEM
W-3	PEM	1.10	0.092		37.62515079	-85.8642621	47	Temporary timber matting will be used for construction/line stringing access between Structures 23A and 24A.
W-4	PEM	0.11			37.62386544	-85.8649057	46	None, avoided.
W-5	PEM	0.25			37.62122724	-85.86645586	45-46	None, avoided.
W-6	PEMf	0.44	0.035		37.61245753	-85.87170138	42	Temporary timber matting will be used for construction/line stringing access between Structures 15A and 16A.
W-7	PUB	*			37.60680484	-85.87445849	39	None, avoided.
W-8	PEM	0.72	0.07		37.60204453	-85.87774261	37-38	Temporary timber matting will be used for construction/line stringing access between Structures 10A and 11A.
То	tal	3.05	0.213					

<sup>(</sup>a) PEMf = farmed wetland, PEM = palustrine emergent, PUB = palustrine scrub shrub, PFO = palustrine forested

<sup>(</sup>b) Within the Study Area only

<sup>\*</sup>W-7 is located immediately adjacent to the Survey Area



**Table 4: Summary of Delineated Streams within the Survey Area** 

Stream ID	Stream Classification	Length of Delineated Stream in Survey Area (feet)	Temporary Air Bridge Installed above the OHWM (feet/acre) <sup>a</sup>	Temporary Timber Mat Installed below the OHWM (feet/acre) <sup>b</sup>	Latitude	Longitude	Wetland Impact Map Page	<b>Description of Disturbance</b>
S-1	Ephemeral	73	-	-	37.65922755	-85.9011302	3-4	None, avoided.
S-2	Perennial	498	31/0.001	1	37.65908821	-85.90150045	4	Temporary air bridge installed above the Ordinary High Water Mark (OHWM) at two locations for line stringing between Structures 5 and 6
S-3A	Perennial	254	15/0.021		37.65876197	-85.90192817	4	Temporary air bridge installed above the OHWM for line stringing between Structures 5 and 6
S-3B	Perennial	218	15/0.025	1	37.63279182	-85.91047425	19	Temporary air bridge installed above the OHWM for line stringing between Structures 20 and 21
S-4	Intermittent	350	30/0.009	1	37.65857028	-85.90264208	4	Temporary timber mat installed above the OHWM for construction access to Structure 6 and line stringing between Structures 5 and 6
S-5	Intermittent	205		-	37.65288849	-85.90866861	8	None, a void.
S-6	Perennial	211	16/0.004		37.65055373	-85.90957588	9	Temporary timber mat installed above the OHWM for construction access/line stringing between Structures 10 and 11
S-7	Perennial	259	15/0.008		37.63480556	-85.91151284	16	Temporary air bridge installed above the OHWM for line stringing between Structures 19 and 20



Stream ID	Stream Classification	Length of Delineated Stream in Survey Area (feet)	Temporary Air Bridge Installed above the OHWM (feet/acre) <sup>a</sup>	Temporary Timber Mat Installed below the OHWM (feet/acre)b	Latitude	Longitude	Wetland Impact Map Page	<b>Description of Disturbance</b>
S-8	Ephemeral	331	1	15/0.001	37.6261781	-85.90770036	21	Temporary air bridge installed above the OHWM for construction access/line stringing between Structures 23 and 24
S-9	Ephemeral	166	1	16/0.003	37.61055885	-85.9045597	28	Temporary timber mat installed below the OHWM for line stringing between Structures 32 and 33
S-10	Perennial	201	15/0.006		37.61039304	-85.90467282	28	Temporary air bridge installed above the OHWM for line stringing between Structures 32 and 33
S-11	Perennial	884	1	15/0.004	37.60630365	-85.90294896	29	Temporary timber mat installed below the OHWM for construction a ccess/line stringing between Structures 34 and 35
S-12	Intermittent	421	-	12/0.0004	37.6069834	-85.90316496	29	Temporary timber matinstalled below the OHWM for construction a ccess/line stringing between Structures 34 and 35
S-13	Ephemeral	37	-		37.60717235	-85.90379665	29	None, a voided.
S-14A	Perennial	215	16/0.011		37.62571494	-85.90738987	21	Temporary timber matinstalled above the OHWM for line stringing between Structures 22 and 23
S-14B	Perennial	220	17/0.010		37.6277901	-85.86337264	52	Temporary air bridge installed above the OHWM for construction access/line stringing between Structures 24A and 25A



Stream ID	Stream Classification	Length of Delineated Stream in Survey Area (feet)	Temporary Air Bridge Installed above the OHWM (feet/acre) <sup>a</sup>	Temporary Timber Mat Installed below the OHWM (feet/acre) <sup>b</sup>	Latitude	Longitude	Wetland Impact Map Page	<b>Description of Disturbance</b>
S-15	Intermittent	578	30/0.002		37.6222134	-85.90528614	23-24	Temporary timber mat installed above the OHWM for line stringing between Structures 25 and 26 Temporary timber mat installed above the OHWM for construction access to 27
S-16	Intermittent	271			37.5996297	-85.87996558	38-39	None, a voided.
S-17	Ephemeral	67			37.60001332	-85.87975572	52	None, a voided.
S-18	Intermittent	296	150.001		37.62776543	-85.86308846	49-50	Temporary timber mat installed above the OHWM for construction access/line stringing between Structures 23A and 24A.  An existing culverted access road will be used for the construction access road from Mud Splash Road to the ROW.
S-19	Ephemeral	87		15/0.001	37.62513037	-85.86460494	48	Temporary timber mat installed below the OHWM for construction access/line stringing between Structures 22A and 23A.
S-20	Intermittent	239	17/0.001		37.62038994	-85.86704162	47	Temporary timber mat installed above the OHWM for construction access/line stringing between Structures 20A and 21A.
S-21	Ephemeral	71	-		37.6125027	-85.87163644	44-45	None, a voided.
S-22	Ephemeral	50			37.61234247	-85.8714037	44	None, a voided.



Stream ID	Stream Classification	Length of Delineated Stream in Survey Area (feet)	Temporary Air Bridge Installed above the OHWM (feet/acre) <sup>a</sup>	Temporary Timber Mat Installed below the OHWM (feet/acre) <sup>b</sup>	Latitude	Longitude	Wetland Impact Map Page	<b>Description of Disturbance</b>
S-23	Intermittent	257		15/0.001	37.60822785	-85.87407341	42-43	Temporary timber mat installed below the OHWM for construction access/line stringing between Structures 23A and 24A.  An existing culverted access road will be used for the construction access road from Glenwood Drive to the ROW.
S-24	Intermittent	37			37.60224089	-85.87796371	39-40	None, a voided.
S-25	Intermittent	238		16/0.004	37.60189243	-85.87778148	39-40	Temporary timber mat installed below the OHWM for construction a ccess/line stringing between Structures 23A and 24A.
S-AA	Ephemeral	15		15/0.003	37.667572	-85.901649	1	Temporary timber mat installed below the OHWM for construction access to string OPGW between Structures 1 and 2.
S-AB	Ephemeral	16		16/0.003	37.667549	-85.902507	1	Temporary timber mat installed below the OHWM for construction access to string OPGW between Structures 1 and 2.
	Total			135/0.024		-		

<sup>(</sup>a) Temporary timber mats or bridges will be installed above the Ordinary High Water Mark (OHWM). No structures are anticipated to be placed below the OHWM at these stream crossings.

<sup>(</sup>b) Temporary timber mats or bridges will be placed across the stream as the bank height is not anticipated to provide a span across the stream above the OHWM. The OHWM bank height is provided in the attached Wetland Delineation Report.



Additional characteristics of the proposed project are detailed below.

- No Outstanding State Resource Waters, National Resource Waters, Cold Water Aquatic Habitat, Exceptional Waters, or identified as candidate Outstanding State Resource Waters or candidate Exceptional Waters are located within the Project.
- The Project requires the conversion of a forested wetland to emergent wetland and therefore, does not meet general condition #16 for NWP 57 under the Kentucky Department for Environmental Protection (KYDEP) §401 Water Quality Certification, Nationwide Permits 2020, AI No.: 35050; Activity ID: APE20200005, USACE ID No.: LRL-2020-0006 dated December 18, 2020. An individual Section 401 Water Quality Certification will be obtained from KYDEP.
- Erosion control measures will be implemented during construction and will generally include silt fence or alternative perimeter control, as appropriate as well as erosion control blankets will be placed in areas prone to erosion, including slopes 3:1 or greater, and disturbed areas will be seeded and mulched upon completion of construction activities. A Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Stormwater Discharges Associated with Construction Activities will likely be required and obtained for this Project.
- An official species list was obtained from the U.S. Fish and Wildlife Service (USFWS) for threatened and endangered species. The official species list identified records for three bat species, one freshwater clam, and the candidate monarch butterfly (*Danaus plexippus*). No impacts to the freshwater mussel are anticipated due to implementation of erosion control measures and the use of timber mats or air bridges placed above the OHWM of stream crossings. LGE-KU has a Memorandum of Understanding (MOU) with the USFWS (MOU No. F17MU00018) for the Indiana bat (*Myotis sodalis*) and Northern long-eared bat (*Myotis septentrionalis*) anticipates tree clearing to be covered under the existing MOU. Habitat for the grey bat (*Myotis grisescens*) is limited to caves or cave like habitat which are not present within the Project.
- All wetlands and stream crossings will be restored to pre-construction contours and seeded with native vegetation following construction activities.



At this time, we are requesting an AJD for the wetland and surface water features identified by Burns & McDonnell and requesting a determination of a pre-construction notification (PCN) under a Nationwide Permit for the proposed project and anticipated impacts.

#### Sincerely,

Evan Markowitz Senior Environmental Scientist Burns & McDonnell (331) 205-8911 ejmarkowitz@burnsmcd.com

#### Enclosures

Attachment A – Jurisdictional Determination Request Form Attachment B – Wetland Delineation Report Attachment C – Wetland Impacts Map

cc: David Todd, LGE & KU Services Company
Nate Beckman, LGE & KU Services Company
Michael Kern, LGE & KU Services Company
Gretchen Henderson, LGE & KU Services Company
Stephanie Vernon, LGE & KU Services Company
Lori Ferry, Burns & McDonnell

#### Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

District Name Here

To:

•	I am requesting a JD on prop	erty located	d at:			-	
	City/Township/Parish:		County:	eet Address)	State		
	Acreage of Parcel/Review Ar	ea for .ID:	County		_ State	_	
	Acreage of Parcel/Review Ar Section: Townshi Latitude (decimal degrees):	00 101 0D D:	Range:				
	Latitude (decimal degrees):	P	Longitude (ded	imal degrees)	):		
	(For linear projects, please in	clude the c	enter point of the	proposed ali	gnment.)		
•	Please attach a survey/plat m					for the JD.	
•	I currently own this prope						
	I am an agent/consultant	acting on b	pehalf of the requ	iestor.	,		
	Other (please explain): _					<del>.</del>	
•	Reason for request: (check a	s many as	applicable)				
	I intend to construct/deve	elop a proje	ct or perform act	ivities on this	parcel which wo	ould be designed to	
	avoid all aquatic resources.						
	I intend to construct/deve				parcel which wo	ould be designed to	
	avoid all jurisdictional aquation						
	I intend to construct/deve						
	authorization from the Corps,				nınımıze impact	s to jurisdictional	
	aquatic resources and as an I intend to construct/deve				nargal which m	av raquira qutharization from	
	the Corps; this request is acc	omnanied h	hy my nermit an	livilles on this	parcer writerring	sed in the permitting proces	
	I intend to construct/deve						
	included on the district Section					the G.G. Willon is	
	A Corps JD is required in						
	I intend to contest jurisdi					Corps confirm that	
			e aquatic resource on the parcel.				
		I believe that the site may be comprised entirely of dry land.					
	Other:						
•	Type of determination being						
	I am requesting an appro						
	I am requesting a prelimi						
	I am requesting a "no pe						
	I am unclear as to which	JD I would	like to request a	na require add	ditional informat	tion to inform my decision.	
Bv	signing below, you are indicat	ing that you	, have the author	rity or are acti	ing as the duly a	authorized agent of a	
	signing below, you are indicat son or entity with such authori						
	e if needed to perform the JD.						
	nts to request a JD on the subj				,	requience property	
3			,				
*Sid	gnature:			Date:			
Οι							
•	Typed or printed name:						
	Company name:						
	Address:						
	Daytime phone no.:						
	•						
	Email address:						

\*Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

**Principal Purpose:** The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website. Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.





# Wetland Delineation Report for the Glendale 345kV Transmission Lines Project

#### **LG&E-KU Energy Services Company**

Glendale 345kV Transmission Lines Project No. 144025

5/4/2022

# Wetland Delineation Report for the Glendale 345kV Transmission Lines Project

prepared for

LG&E-KU Energy Services Company Glendale 345kV Transmission Lines Project Lexington, KY

Project No. 144025

5/4/2022

prepared by

Burns & McDonnell Engineering Company, Inc. Chicago, Illinois

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List of Abbreviations

#### **LIST OF ABBREVIATIONS**

<u>Abbreviation</u> <u>Term/Phrase/Name</u>

APT Antecedent Precipitation Tool

Burns & McDonnell Engineering Company, Inc.

CWA Clean Water Act

E Ephemeral

EPA Environmental Protection Agency

FAC Facultative plants

FACU Facultative upland plants

FACW Facultative wetland plants

FEMA Federal Emergency Management Agency

FIRM Flood Insurance Rate Map

GPS Global Positioning System

I Intermittent

kV Kilovolt

LRR Land Resource Regions

LG&E-KU Energy Services Company

NFHL National Flood Hazard Layer

NHD National Hydrography Dataset

NRCS Natural Resources Conservation Service

NRPW Non-Relatively Permanent Water

NTCHS National Technical Committee for Hydric Soils

NWI National Wetlands Inventory

Abbreviation <u>Term/Phrase/Name</u>

OBL Obligate wetland plants

OHWM Ordinary High Water Mark

P Perennial

PEM Palustrine Emergent wetland

PFO Palustrine Forested wetland

Project Area Glendale 345kV transmission lines (LI-167000 and LI-167444) right-of-

way and proposed access routes

Project Glendale 345kV Transmission Lines Project

PUB Palustrine Unconsolidated Bottom wetland

Regional Supplement Regional supplements to the 1987 Wetlands Delineation Manual

RPW Relatively Permanent Water

S Stream

SDA Soil Data Access

SP Sample Plot

SSURGO Soil Survey Geographic

SWANCC Solid Waste Agency of Northern Cook County

Survey Area 216 acres including transmission lines right-of-way and proposed access

routes

TNW Traditional Navigable Waterway

UPL Upland plants

USACE U.S. Army Corps of Engineers

USDA U.S. Department of Agriculture

USFWS U.S. Fish and Wildlife Service

USGS U.S. Geological Survey

List of Abbreviations

Abbreviation Term/Phrase/Name

WOTUS Waters of the U.S.

the requirements of the CWA.

#### 1.0 INTRODUCTION

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) was retained by LG&E-KU Energy Services Company (LG&E-KU) to provide wetland delineation and permitting services for the proposed Glendale 345kV Transmission Lines Project (Project) that is located in Hardin County, Kentucky (Figure 1, Appendix A). The Project consists of two new 345kV transmission lines (LI-167000 and LI-167444) totaling approximately 8.2 miles as well as the use of access routes totaling approximately 12 miles. LI-167000 is approximately 4.8 miles totaling 35 structures. LI-167444 is approximately 3.4 miles totaling 27 structures. The Project will be located with a new 200-foot right-of-way (ROW). The Project Area encompasses a total of 216 acres, which includes the 200-foot ROW, 5-foot-wide access roads and potential pull pad locations that extend outside of the ROW, and approximately 0.5 acre access and work area for stringing new OPGW wires from the existing Hardin County Substation to Structure 4 of LI-167000. The Survey Area for the wetland delineation consists of the entire 216 acre Project Area, with approximately 26 acres of the Survey Area being previously delineated by Third Rock Consultants LLC in November and December 2021. The results of the delineation conducted by Third Rock Consultants LLC is not included in this Wetland Delineation Report. The purpose of this assessment was to identify wetlands and surface waters present within the Survey Area that may be considered "Waters of the United States" (WOTUS, 40 CFR 230.3[s]) and subject to regulation under the federal Clean Water Act (CWA) by the U.S. Army Corps of Engineers (USACE). The USACE and the U.S. Environmental Protection Agency (EPA) jointly define wetlands as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (42 Fed. Reg. 37128-29). According to 40 CFR 230.3(s), WOTUS include all waters that may be used for interstate or foreign commerce, all interstate wetlands and waterways, intrastate wetlands and waterways of which the use, degradation, or destruction could affect interstate or foreign commerce, impoundments of waters, territorial seas, and wetlands adjacent to waters not including waste treatment systems, including their treatment ponds or lagoons designed to meet

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Introduction

Burns & McDonnell conducted a wetland and surface water delineation on March 8 through 10, 2022 to identify the location and extent of wetlands and surface waters present within the Survey Area. This report documents the methods and results of the desktop and field investigations conducted to identify wetlands and surface waters for the Project.

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#### 2.0 METHODS

The following sections summarize the methods used to complete the desktop review of existing data and to conduct the field investigations within the Project Area.

#### 2.1 Existing Data Review

Burns & McDonnell reviewed available background information for the Survey Area prior to conducting the site visit. Available background information included the following:

- U.S. Geological Survey (USGS) 7.5-minute topographic map (Elizabethtown 2019, Cecilia 2019, Sonora 2019, Tonieville 2019 quadrangles);
- U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) map (USFWS 2022);
- USGS National Hydrography Dataset (NHD);
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM),
   National Flood Hazard Layer (NFHL 2007); and
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO 2021) digital data for Hardin County.

Background data helps in identifying locations of potential wetland and surface waters. However, as these features may not have been field verified or modified since the data was published, the field analyses supersedes the mapped data.

#### 2.2 Wetland Delineation

Identification of wetlands is based on a three-factor approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology, originally set forth by the USACE in the 1987 Environmental Laboratory publication entitled "Corps of Engineers Wetlands Delineation Manual: Technical Report Y-87-1", commonly referred to as the 1987 Wetlands Delineation Manual (Environmental Laboratory 1987).

The USACE released regional supplements to the 1987 Wetlands Delineation Manual outlining updated technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of the CWA or Section 10 of the Rivers and

Harbors Act. The Survey Area is located within the following regional supplement(s) (Regional Supplements):

• 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)

This wetland delineation used the hydrophytic vegetation, hydric soil, and wetland hydrology indicators as outlined in the applicable Regional Supplement for each sample point. A general overview of hydrophytic vegetation, hydric soil, and wetland hydrology indicators are provided below. Detailed information for each indicator can be found in the applicable Regional Supplement. In addition, methodology for determining wetland quality (where applicable), surface water boundaries, and farmed wetland determinations are provided below.

#### 2.2.1 Hydrophytic Vegetation

To evaluate the presence of hydrophytic vegetation, data are gathered using a graduated series of plots, one for each vegetation stratum. Plot shape and size are dictated by vegetation type, as well as the shape and size of the plant community being evaluated.

The indicator status and percent absolute cover for plants within plots for all vegetation strata are recorded. The indicator status for plant species are based on an estimated probability of occurring in wetlands. This rating system, published by the USACE in 2020 under the title "The National Wetland Plant List, version 3.5" (USACE 2020), consists of obligate wetland plants (OBL), facultative-wet plants (FACW), facultative plants (FAC), facultative upland plants (FACU), and upland plants (UPL). Obligate plant species generally grow in water. Facultative plant species can exist in saturated or dry soil conditions, and upland plants typically require dry soil conditions to exist.

#### 2.2.2 Hydric Soil

A description of the soil profile is used to evaluate the presence of hydric soil. The USDA recognizes 28 Land Resource Regions (LRRs) based on soil, climate, and land use. Hydric soil indicators for LRRs presented in the Regional Supplements are a subset of the National Technical Committee for Hydric Soils (NTCHS) Field Indicators of Hydric Soils in the United States and are regularly modified. The most recent version of Field Indicators of Hydric Soils is Version 8.2 (USDA NRCS 2018) and was used for this delineation.

# 2.2.3 Wetland Hydrology

Wetland hydrology indicators are separated into four groups and divided into a primary or secondary category based on their estimated reliability in the applicable region. Primary indicators provide stand-alone evidence of a current or recent hydrological event. Secondary indicators provide evidence of recent inundation or saturation when supported by one or more other primary indicators or secondary wetland hydrology indicators but should not be used alone.

#### 2.2.4 Surface Water Assessment

Surface waters may only have one or two of the wetland criteria listed above. The USACE defines the ordinary high water mark (OHWM) as the boundary of surface waters (33 CFR 328.3[F]). The USACE issued an OHWM Identification regulatory guidance letter (USACE, 2005) which defines "the OHWM [as] the line on the shore established by fluctuations of water and is indicated by physical characteristics such as:

- A clear, natural line impressed on the bank;
- Shelving;
- Changes in the character of soil;
- Destruction of terrestrial vegetation;
- The presence of litter and debris; or
- Other appropriate means that consider the characteristics of the surrounding areas."

During low streamflow or drought conditions, the OHWM is used to determine the boundary of a surface water. During extremely high streamflow conditions or flood conditions the boundaries of surface waters cannot accurately be determined. Therefore, surface water boundaries should be delineated when normal streamflow conditions are present.

To differentiate boundaries between surface waters and adjacent wetlands, evidence of the OHWM is utilized. Changes in vegetation can also be evaluated to determine where true hydrophytic (FAC and FACW) plant species are present versus aquatic or OBL species; however, it should be noted that in many cases vegetation is not present within the channels of surface waters. Vegetation adjacent to surface waters may be limited to species overhanging the banks and channel.

If the presence of a surface water is questionable, the USACE will typically conduct a review of historic aerial photographs and historic USGS topographic maps to confirm the current or

Wetland Delineation Report

Methods

historic presence of a surface water. This can include segments of streams that are entirely enclosed.

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#### 3.0 RESULTS

The following sections summarize the desktop evaluation and field investigations.

## 3.1 Existing Data Review

Burns & McDonnell reviewed available background information for the Survey Area prior to conducting the site visit. These sources provide an indication of areas where wetlands and surface waters potentially occur and certain characteristics. A summary of the available background information is presented below and mapped on Figures in Appendix A.

## 3.1.1 USGS 7.5-minute Topographic Maps

The USGS topographic map indicates the Survey Area crosses generally flat areas ( $\leq 5\%$ ) consisting of agricultural and pastureland with some gently rolling hills of 15-20% slopes (Figure 2 in Appendix A).

#### 3.1.2 FEMA FIRM

The FEMA FIRM (Figure 2 in Appendix A) depicts the Survey Area crossing six floodplains associated with Valley Creek, East Rhudes Creek, and Rose Run as well as multiple tributaries (Figure 2 in Appendix A).

## 3.1.3 USFWS NWI

The digital format NWI maps were developed by USFWS in collaboration with the USGS, Water Resource Division using data from 1987 and are periodically updated. The maps are prepared primarily by stereoscopic analysis of high-altitude aerial photographs to produce reconnaissance level information on the location, type and size of wetlands and deepwater habitats. All wetlands are identified based on vegetation, visible hydrology, and geography in accordance with the Cowardin System (Cowardin 1979). According to the USFWS, the aerial photographs reflect conditions during the year and season they were taken; however, there is a margin of error inherent in the use of aerial photographs to delineate wetlands. Therefore, wetland boundaries established through interpretation of aerial photographs may be revised based upon detailed ground survey and historical analysis of an individual site.

The NWI map (Figure 3 in Appendix A) indicates two palustrine forested broad-leaved deciduous temporary flooded (PFO1A) wetlands, three palustrine unconsolidated bottom

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permanently flooded (PUBH) wetlands, one palustrine unconsolidated shore seasonally flooded (PUSC) wetland, one riverine lower perennial unconsolidated bottom permanently flooded (R2UBH) wetland, 14 riverine intermittent streambed seasonally flooded (R4SBC) wetlands, and three riverine unknown perennial unconsolidated bottom permanently flooded (R5UBH) wetlands are located within the Survey Area.

#### 3.1.4 USGS NHD

The NHD represents the water drainage network of the United States with features such as rivers, streams, canals, lakes, ponds, coastline, dams, and streamgages. NHD is updated and maintained through partnerships with states and other collaborative bodies. The NHD dataset (Figure 3 in Appendix A) shows that fifteen unnamed streams and three named streams cross the Survey Area. Named waterbodies include East Rhudes Creek, Valley Creek, and Rose Run.

#### 3.1.5 USDA NRCS SSURGO

The NRCS Web Soil Survey (USDA NRCS 2022a) is generated from the USDA-NRCS certified data (Figure 4 in Appendix A). The NRCS Soil Data Access (SDA) Hydric Soils List (USDA NRCS 2022b) contains a compilation of all map units with either a major or minor component that is at least in part hydric. As the list includes both major and minor (small) percentages for map units, in some cases most of the map unit may not be hydric. The list is useful in identifying map units that may contain hydric soils.

The NRCS SSURGO digital data indicates that portions of 22 soil map units are located in the Survey Area. One soil map unit, Melvin silt loam (Mv), is included on local and national hydric soil lists.

## 3.2 Site Investigation Results

A total of eight wetlands and 26 surface waters were delineated. The Antecedent Precipitation Tool (APT) results indicated the Survey Area was experiencing wetter than normal conditions at the time of the survey (Appendix B). The wetlands and surface waters are summarized in Tables 1 and 3, respectively, and are mapped on Figure 5 in Appendix A. Wetland Determination Data Forms from the applicable Regional Supplement were completed for each wetland and are included in Appendix B. Natural color photographs of sample plots, wetland and surface waters, and other identified features are included in Appendix C. Locations of sample plots, wetland and

Results

surface water boundaries, and other identified features were surveyed using a sub-meter accurate Global Positioning System (GPS) unit.

Approximately 0.5 acre of the approximate 216 acre Survey Area was added after the site investigations were completed. A desktop determination was conducted to identify wetlands and other water bodies within this area. Both the information gathered in the existing data review and knowledge from the previous site investigations were utilized to identify potential wetlands and waterbodies. These features were not field verified.

## 3.2.1 Wetlands

A total of eight wetlands were delineated within the Survey Area. Refer to Table 1 below for details for each wetland.

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Table 1: Summary of Wetlands within the Survey Area

Wetland Number	Wetland Type <sup>a</sup>	Dominant Vegetation <sup>b</sup>	Hydric Soil Indicator(s) <sup>c</sup>	Wetland Hydrology Indicator(s) <sup>d</sup>	Area of Wetland Delineated in Survey Area (acre)	Figure 5 Page Number	WOTUS (Y/N) <sup>e</sup>
W-1	PEMf	Wing-pod purslane, common panic grass, Kentucky blue grass	F3	A1, A2, A3, C9, D1, D2	0.25	21	N
W-2	PFO	Green ash, American elm, river birch, black elder	F6	A2, A3, B3, B9, B10, D2, D5	0.18	46	Y
W-3	PEM	Deer-tongue rosette grass, lamp rush	F3	A2, A3, B10, D2, D5	1.10	44	Y
W-4	PEM	Silver maple, Dudley's rush, sedge species	F3	A2, A3, B9, C3, D2, D5	0.11	43	Y
W-5	PEM	Creeping buttercup, lamp rush	F3	A2, A3, D2, D5	0.25	42	N
W-6	PEMf	Common panic grass, Kentucky blue grass	F3	A3, C9, D2	0.44	39	Y
W-7	PUB					36	N
W-8	PEM	Sedge species, wand panic grass, dark- green bulrush	F3	A2, A3, C3, C9, D2, D5	0.72	35	Y
	Total						

- (a) Symbols for wetland type: PEMf = farmed wetland, PEM = palustrine emergent, PFO = palustrine forested, PUB = palustrine unconsolidated bottom
- (b) Winged-pod purslane (*Portulaca umbraticola*), common panic grass (*Panicum capillare*), Kentucky blue grass (*Poa pratensis*), green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), river birch (*Betula nigra*), black elder (*Sambucus nigra*), deer-tongues rosette grass (*Dichanthelium clandestinum*), lamp rush (*Juncus effusus*), Silver maple (*Acer saccharinum*), Dudley's rush (*Juncus dudleyi*), sedge species (*Carex sp.*), creeping buttercup (*Ranunculus repens*), wand panic grass (*Panicum virgatum*), and dark-green bulrush (*Scirpus atrovirens*).
- (c) Indicator code for hydric soil: F3 = Depleted Matrix, F6 = Redox Dark Surface
- (d) Indicator code for wetland hydrology: A1 = Surface Water, A2 = High Water Table, A3 = Saturation, B3 = Drift Deposits, B9 = Water-Stained Leaves, B10 = Drainage Patterns, C3 = Oxidized Rhizospheres on Living Roots, C9 = Saturation Visible on Aerial Imagery, D1 = Stunted or Stressed Plants, D2 = Geomorphic Position, D5 = FAC-Neutral Test
- (e) Jurisdiction is based on professional judgement using the using the definition of WOTUS under Solid Waste Agency of Northern Cook County (SWANNCC) v. U.S. Army Corps of Engineers, and Rapanos v. United States. The USACE makes the final determination of jurisdictional status.

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## Areas Determined to not Meet Wetland Criteria

Table 2: Sample Plots Not Determined to Meet Wetland Criteria

Sample Plot (SP)	Dominant Vegetation <sup>a</sup>	Hydric Soil Indicator(s)	Wetland Hydrology Indicator(s) <sup>b</sup>	Figure 5 Page Number	
SP-1	Kentucky blue grass None		A1, C9	9	
SP-2	Common panic grass, Kentucky blue grass	None	A2, A3	25	
SP-5	Sycamore, black cherry, giant cane	None	D5	18	
SP-16	Common panic grass, Kentucky blue grass	None	None	38	

<sup>(</sup>a) Kentucky blue grass (*Poa pratensis*), common panic grass (*Panicum capillare*), sycamore (*Platanus occidentalis*), black cherry (*Prunus serotina*) giant cane (*Arundinaria gigantea*)

## 3.2.2 Streams

A total of 26 surface waters were delineated within the Survey Area. Refer to Table 3 below for details for each stream.

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<sup>(</sup>b) Indicator code for wetland hydrology: A1 = Surface Water, A2 = High Water Table, A3 = Saturation, C9 = Saturation Visible on Aerial Imagery, D5 = FAC-Neutral Test

Table 3: Type and Length of Streams Delineated

Stream Number <sup>a</sup>	Flow Regime/ Stream Type <sup>b</sup>	WOTUS (Y/N)°	Stream Name <sup>d</sup>	Substrate	OHWM Width (feet)	OHWM Bank Height (feet)	Surface Water Depth (feet)	Length of Delineated Stream in Survey Area (feet)	Figure 5 Page
S-1	E/NRPW	Y	UNT to Valley Creek	Silt	3	4	0	73	3
S-2	P/RPW	Y	UNT to Valley Creek	Gravel, silt	8	8	1	498	3
S-3A	P/RPW	Y	Valley Creek	Cobble, gravel, silt	70	15	5	254	3
S-3B	P/RPW	Y	Valley Creek	Cobble, gravel, silt	70	20	8	218	15
S-4	I/RPW	Y	UNT to Valley Creek	Cobble, silt	5	6	0.5	350	3
S-5	I/RPW	Y	UNT to Valley Creek	Silt	8	1	0.5	205	5
S-6	P/RPW	Y	UNT to Valley Creek	Gravel, Silt	4	1	0.75	211	6
S-7	P/RPW	Y	UNT to Valley Creek	Silt, detritus	25	4	3	259	15
S-8	E/NRPW	Y	UNT to East Rhodes Creek	Silt	2.5	2	0.1	331	18
S-9	E/NRPW	Y	UNT to Rose Run	Silt	7	0.25	0.5	166	23
S-10	P/RPW	Y	Rose Run	Cobble, gravel, sand, silt	10	4	1	201	23
S-11	P/RPW	Y	UNT to Rose Run	Cobble, gravel, silt	8	0.25	0.5	884	24, 25
S-12	I/RPW	Y	UNT to Rose Run	Gravel, silt	2	1	0.2	421	24, 25
S-13	E/NRPW	Y	UNT to Rose Run	Gravel, silt	1	2.5	0.1	37	24
S-14A	P/RPW	Y	East Rhodes Creek	Cobble, gravel, sand, silt	35	6	5	215	18
S-14B	P/RPW	Y	East Rhodes Creek	Cobble, gravel, sand, silt	25	10	4	220	46
S-15	I/RPW	Y	UNT to East Rhodes Creek	Gravel, sand, detritus	4	4	2	578	19
S-16	I/RPW	Y	UNT to Nolin River	Silt	3	0.5	0.3	271	34
S-17	E/NRPW	Y	UNT to East Rhodes Creek	Silt, detritus	2.5	6	0.1	67	46
S-18	I/RPW	Y	UNT to East Rhodes Creek	Silt, detritus	3	4	0.4	296	44
S-19	E/NRPW	Y	UNT to East Rhodes Creek	Silt, detritus	4	0.25	0.1	87	43

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Stream Number <sup>a</sup>	Flow Regime/ Stream Type <sup>b</sup>	WOTUS (Y/N) <sup>c</sup>	Stream Name <sup>d</sup>	Substrate	OHWM Width (feet)	OHWM Bank Height (feet)	Surface Water Depth (feet)	Length of Delineated Stream in Survey Area (feet)	Figure 5 Page
S-20	I/RPW	Y	UNT to East Rhodes Creek	Gravel, sand, silt	3	7	0.75	239	42
S-21	E/NRPW	Y	UNT to Rose Run	Silt	2	0.5	0.2	71	39
S-22	E/NRPW	Y	UNT to Rose Run	Silt	1.5	1.5	0	50	39
S-23	I/RPW	Y	UNT to Nolin River	Detritus, silt	2	3	0.3	257	38
S-24	I/RPW	Y	UNT to Nolin River	Gravel, silt	1.5	0.5	0.2	37	35
S-25	I/RPW	Y	UNT to Nolin River	Silt	1.5	0.5	0.5	238	35
S-AA*	E/NRP	Y	UNT to Valley Creek	UNK	9**	UNK	UNK	15**	
S-AB*	E/NRP	Y	UNT to Valley Creek	UNK	9**	UNK	UNK	16**	
							Total:	6,765	

<sup>(</sup>a) Assigned by Burns & McDonnell staff during the site investigation; S = stream

LG&E-KU 3-7 Burns & McDonnell

<sup>(</sup>b) Stream name follows USGS topographic map, NHD, or state/local data source; P = Perennial, I = Intermittent, E = Ephemeral; TNW = Traditional Navigable Waterway; RPW= Relatively Permanent Water, NRPW= Non-Relatively Permanent Water

<sup>(</sup>c) Jurisdiction is based on professional judgement using the using the definition of WOTUS under Solid Waste Agency of Northern Cook County (SWANNCC) v. U.S. Army Corps of Engineers, and Rapanos v. United States. The USACE makes the final determination of jurisdictional status.

<sup>(</sup>d) UNT = Unnamed Tributary

<sup>\*</sup> Stream identified based on desktop review and not verified with a field survey.

<sup>\*\*</sup> Value based on desktop review.

## 4.0 SUMMARY

Burns & McDonnell conducted a wetland delineation of the Survey Area to identify wetlands and other waterbodies. A total of eight wetlands and 26 surface waters were identified. Avoidance of wetlands and surface waters should be considered in Project planning. If avoidance is not possible, permits for impacts and alterations may be required. Permits for impacts to jurisdictional waterways and wetlands within Kentucky are regulated by the USACE in compliance with Section 404 of the CWA. Jurisdictional surface waters and wetlands are defined by the pre-2015 regulatory definition using guidance from Rapanos and SWANCC.

In addition, the Survey Area crossed floodplains associated with Valley Creek, East Rudes Creek, Rose Run, and several of their unnamed tributaries. Floodplains in Kentucky are regulated by Kentucky Department of Environmental Protection and the counties. The Project may be covered under the General Permit KY FPGP, but consultation with the state and counties is recommended.

LG&E-KU 4-1 Burns & McDonnell

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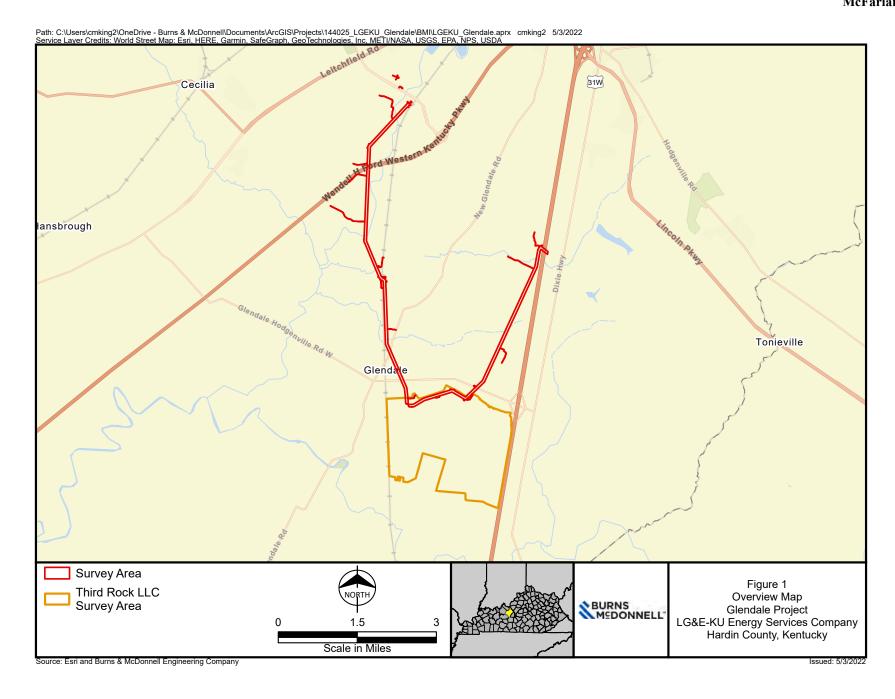
LG&E-KU 5-1 Burns & McDonnell

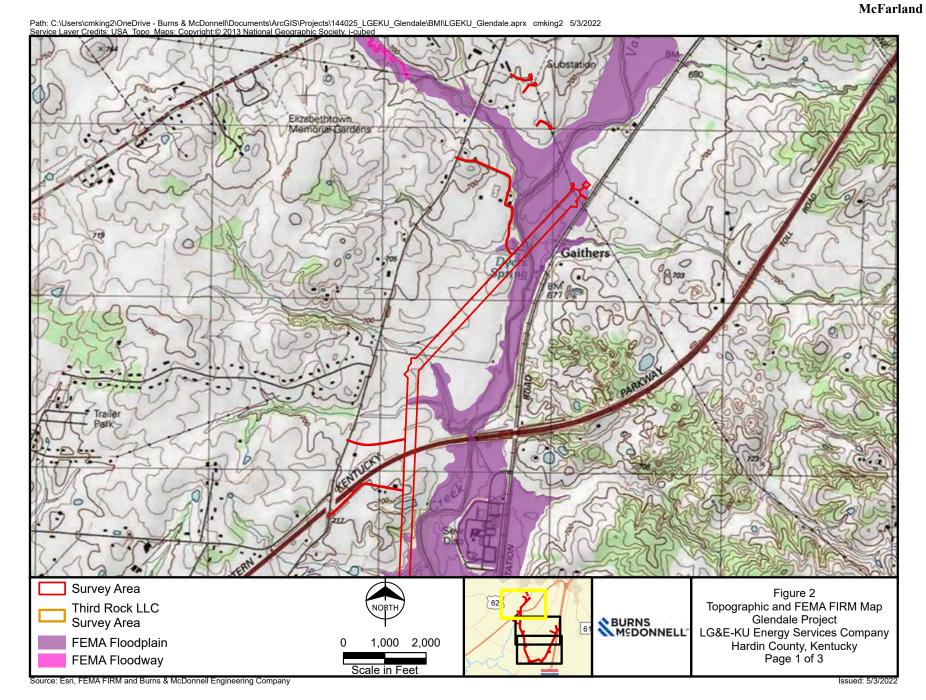
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LG&E-KU 5-2 Burns & McDonnell

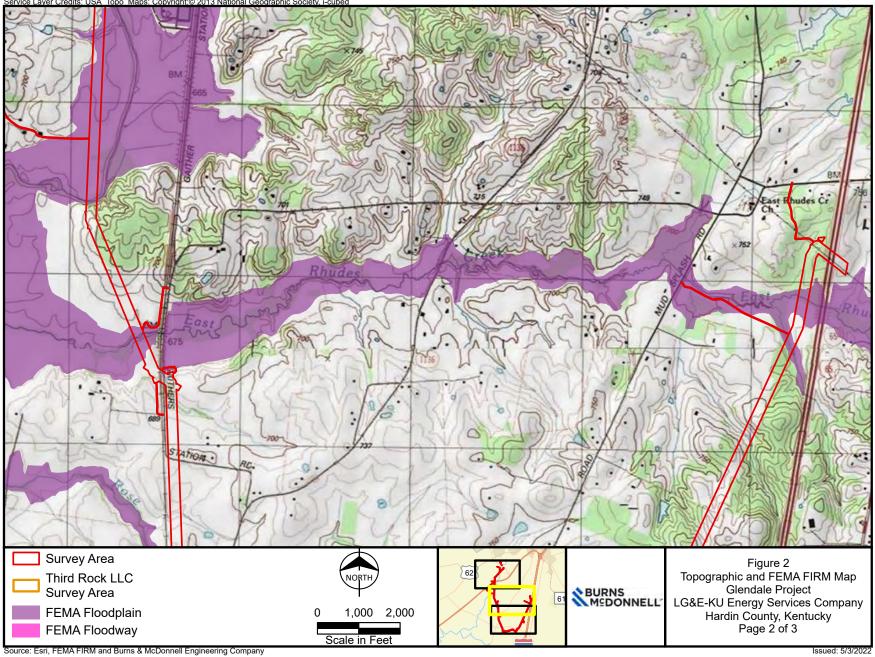
Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5
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McFarland

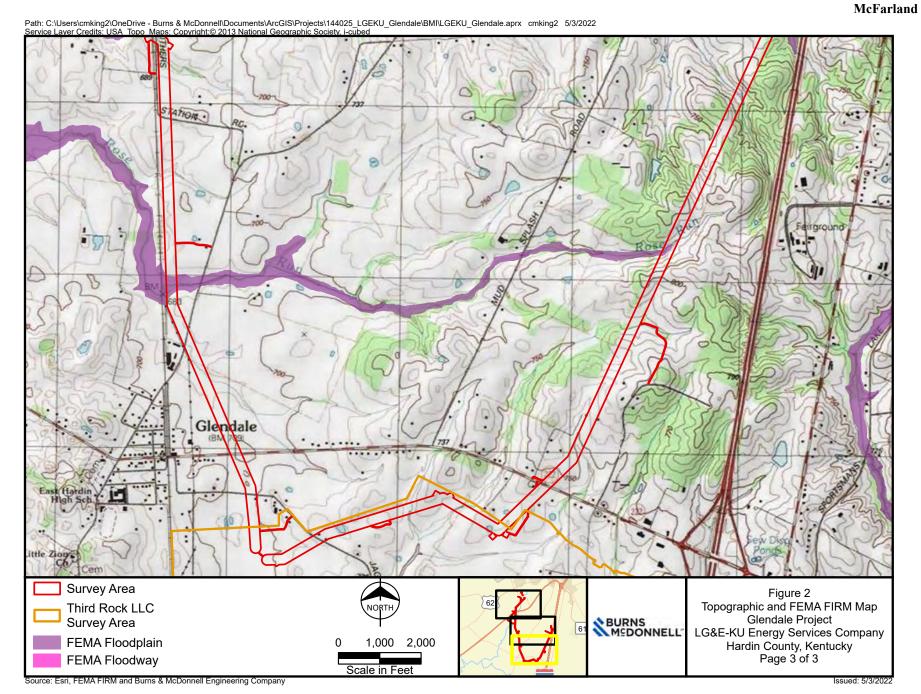
APPENDIX A – FIGURES

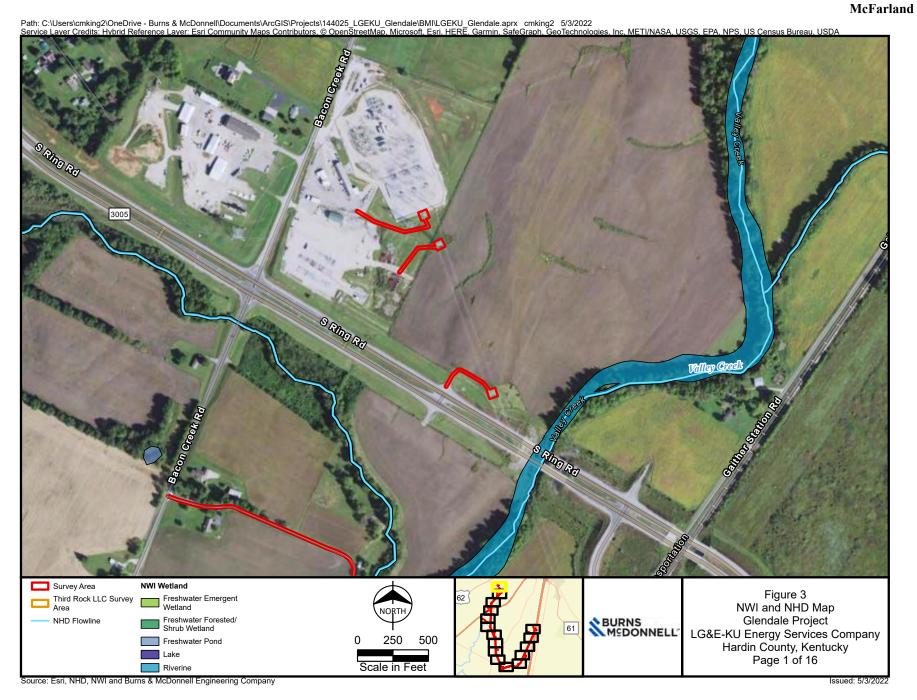


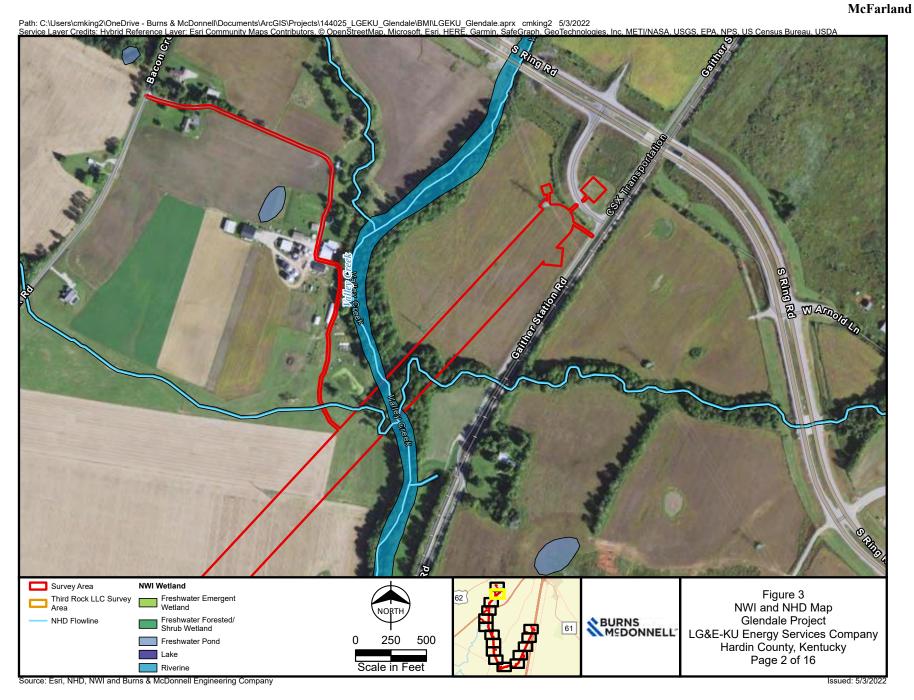


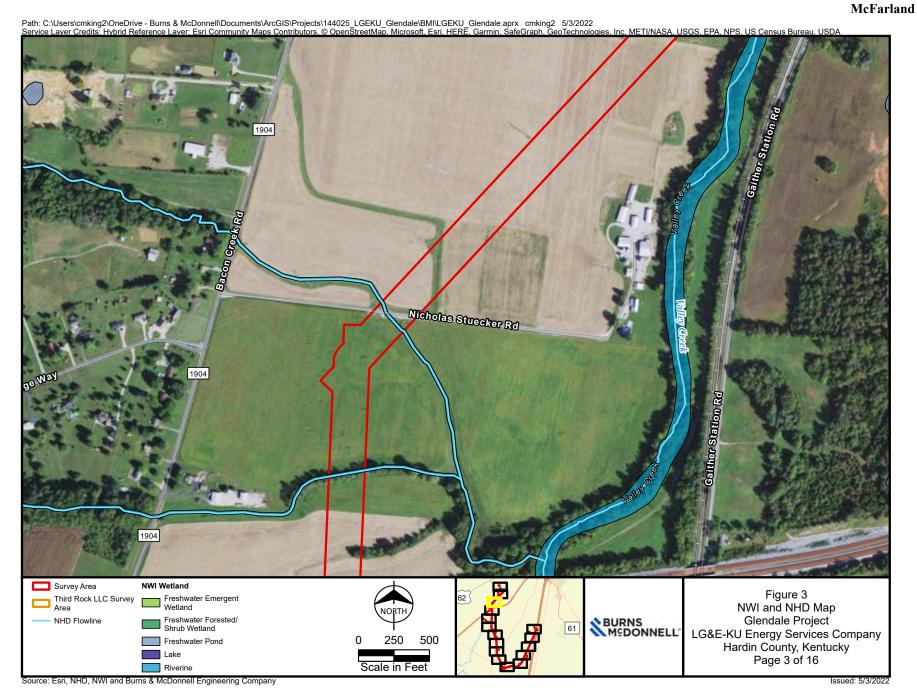


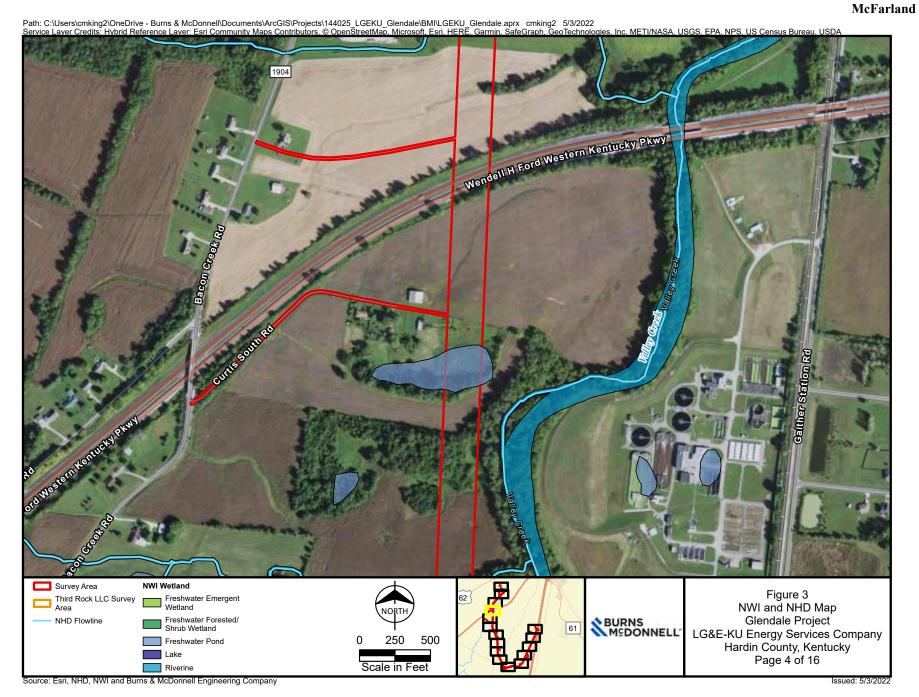


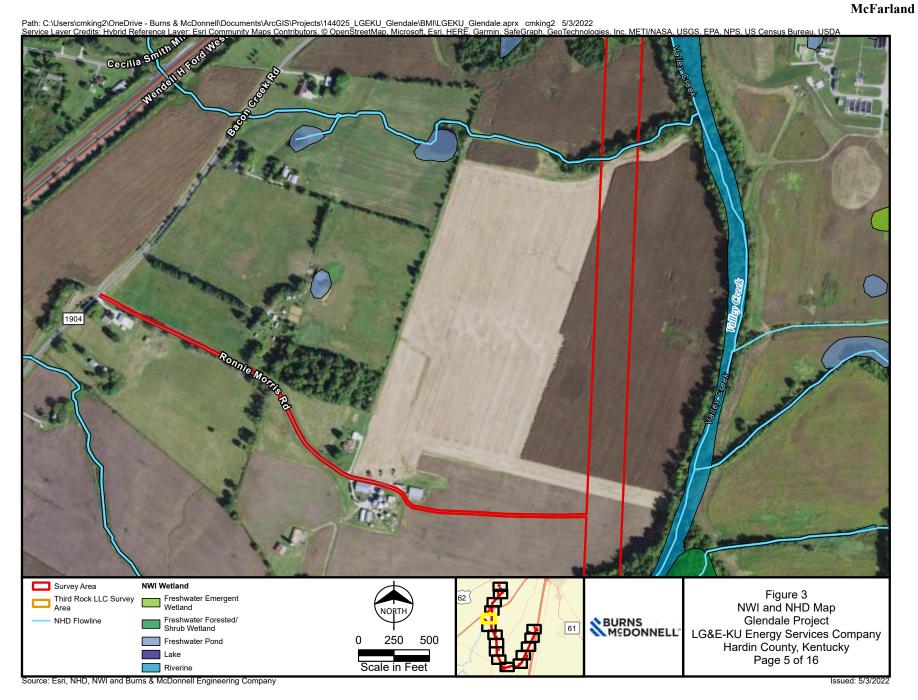


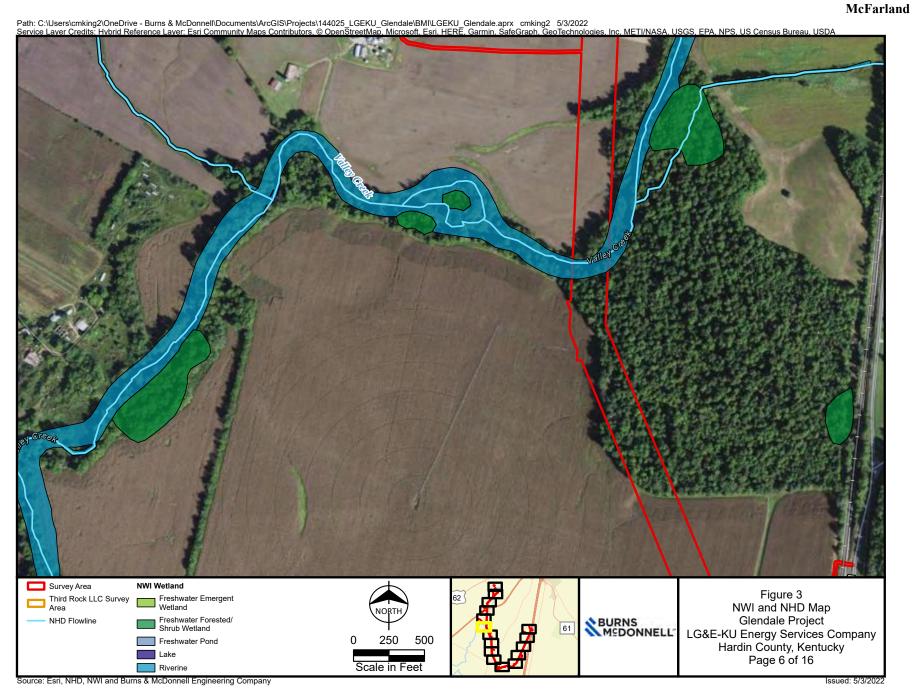




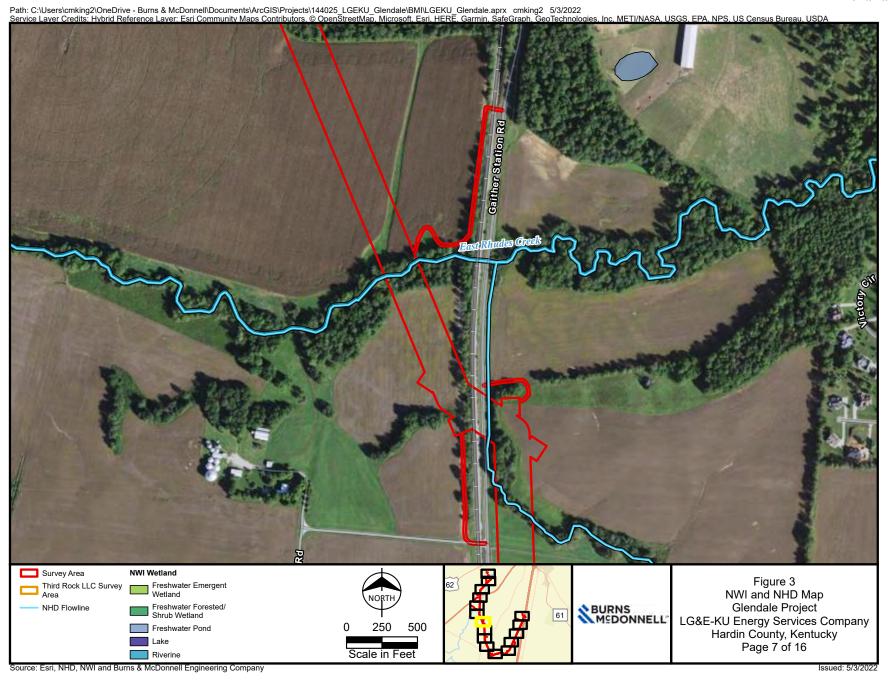


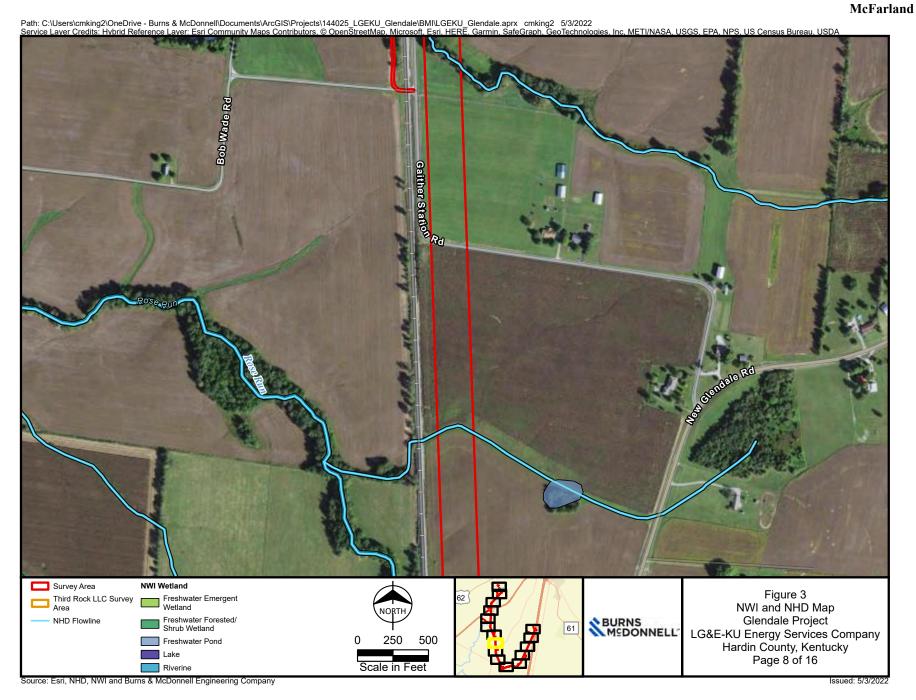


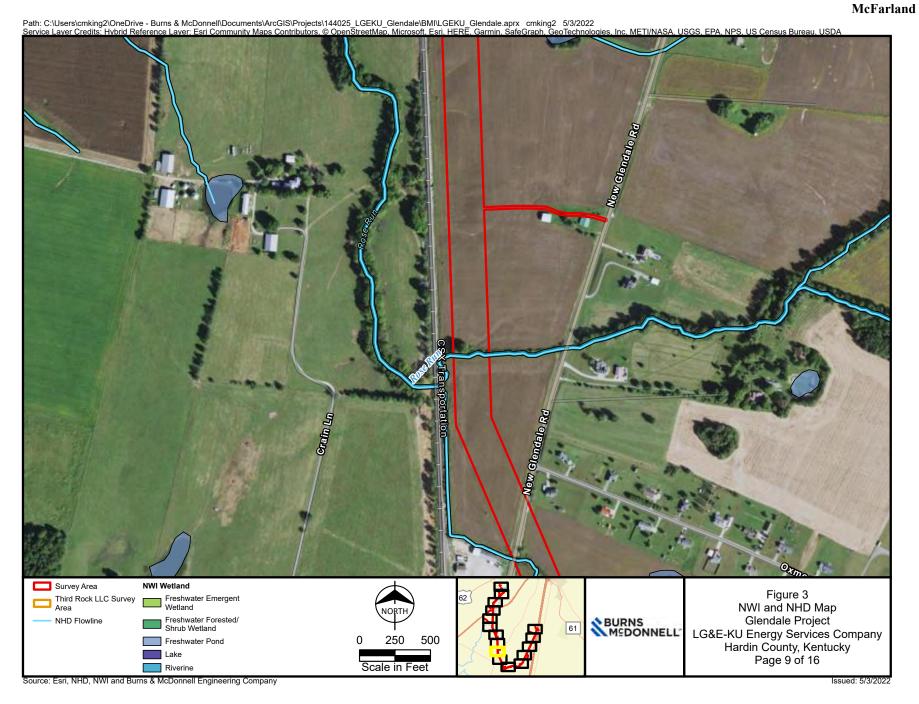


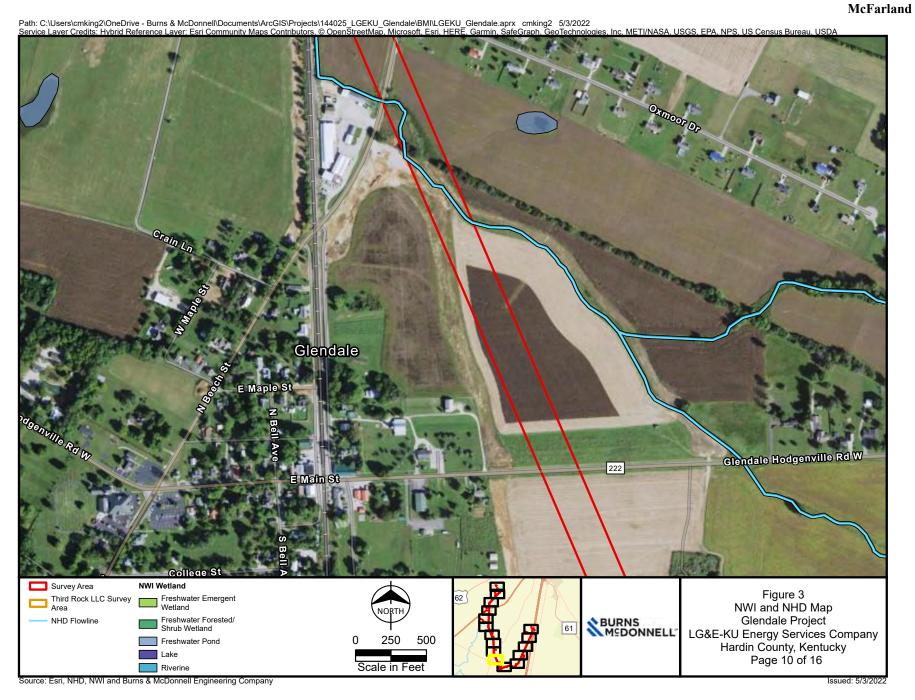


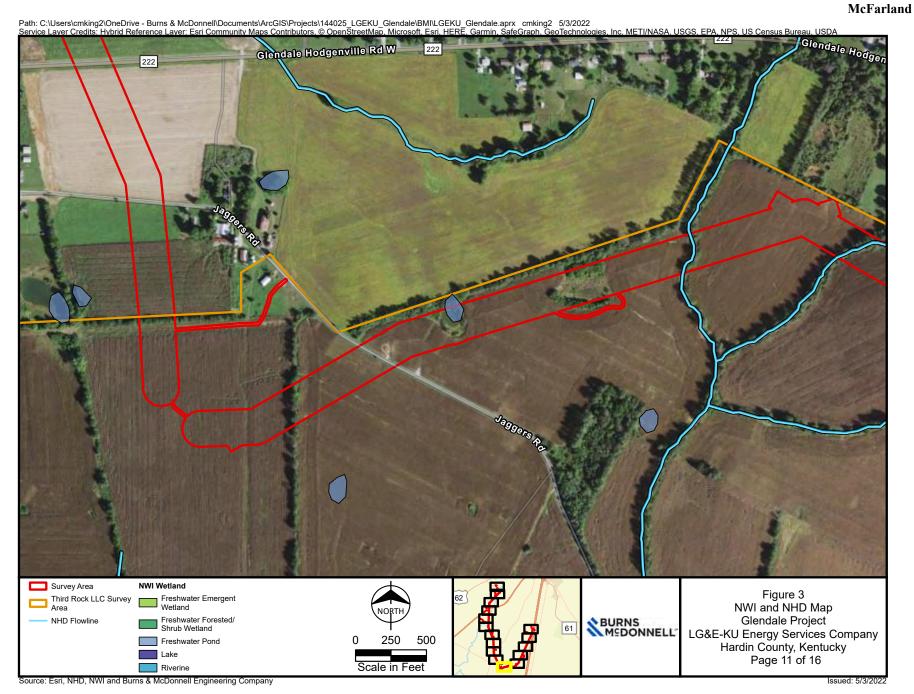


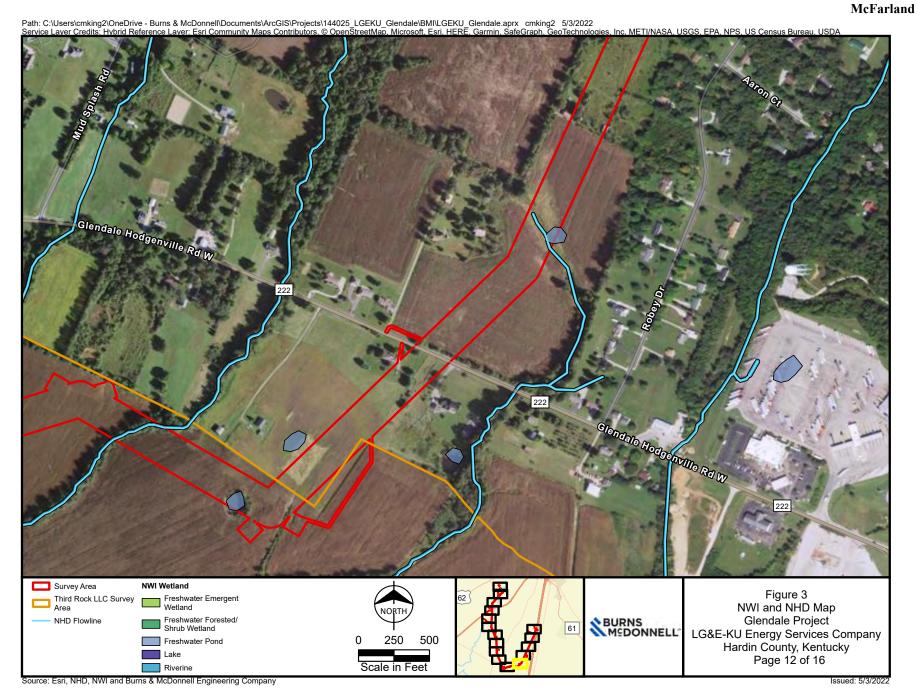


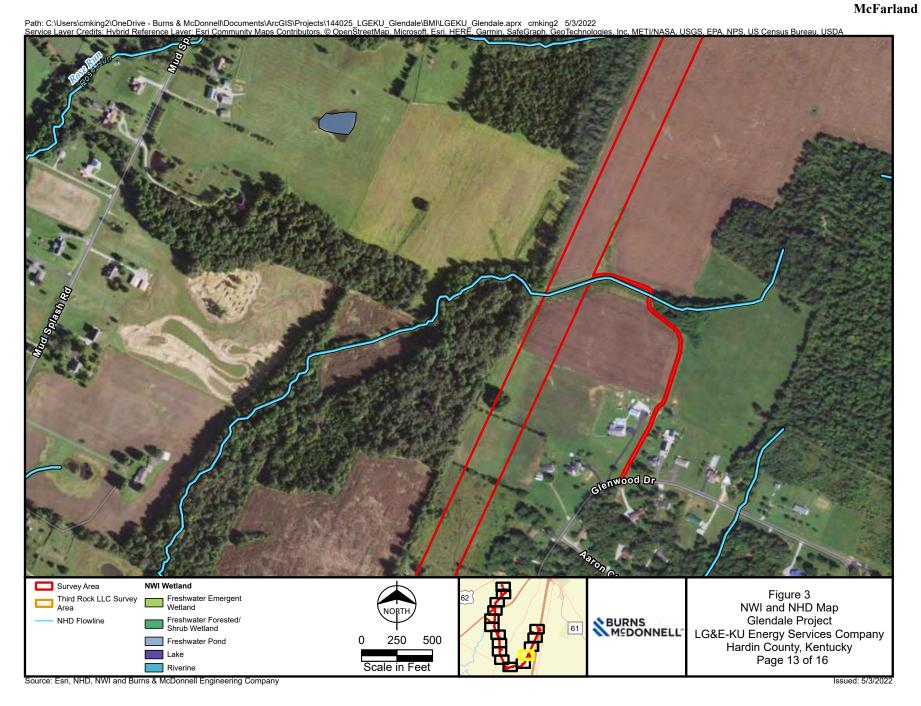


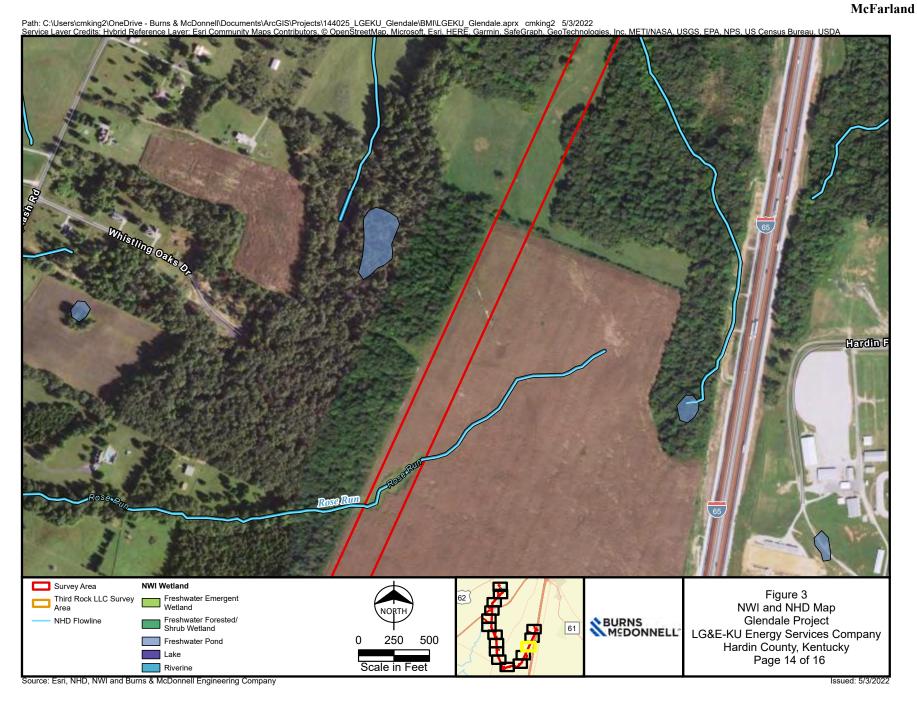


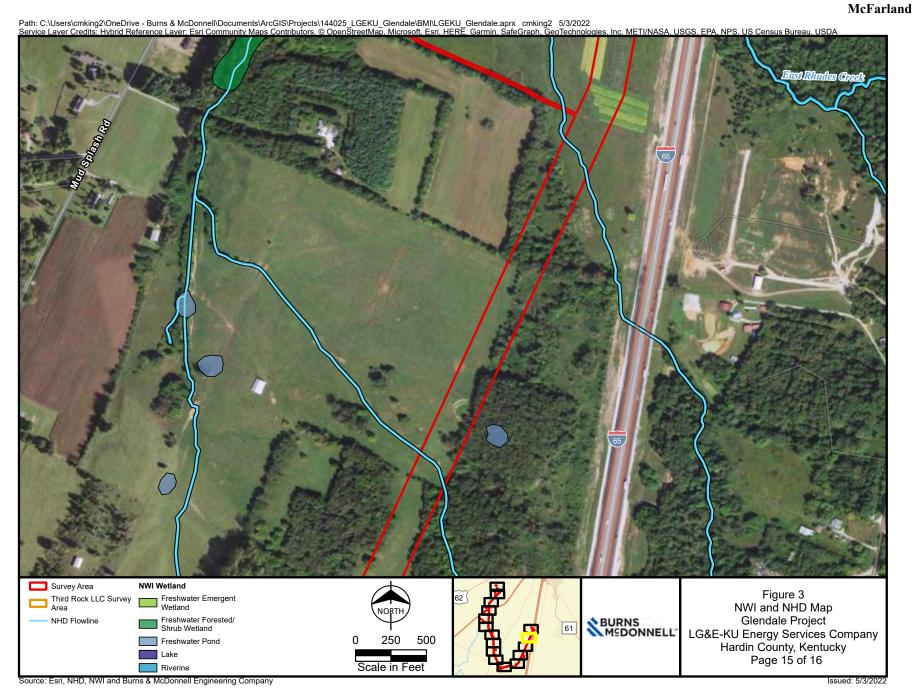


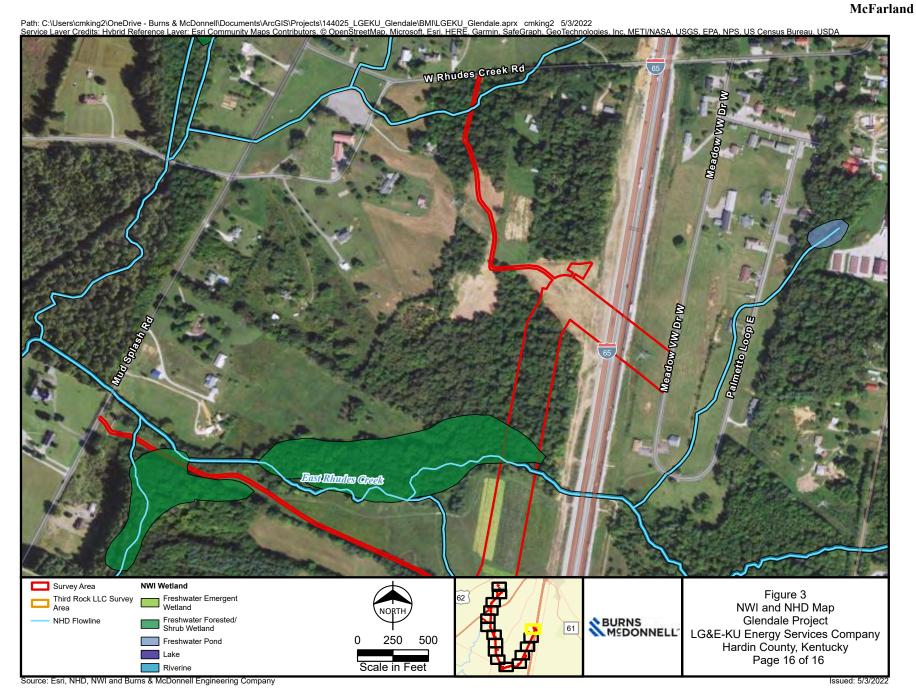


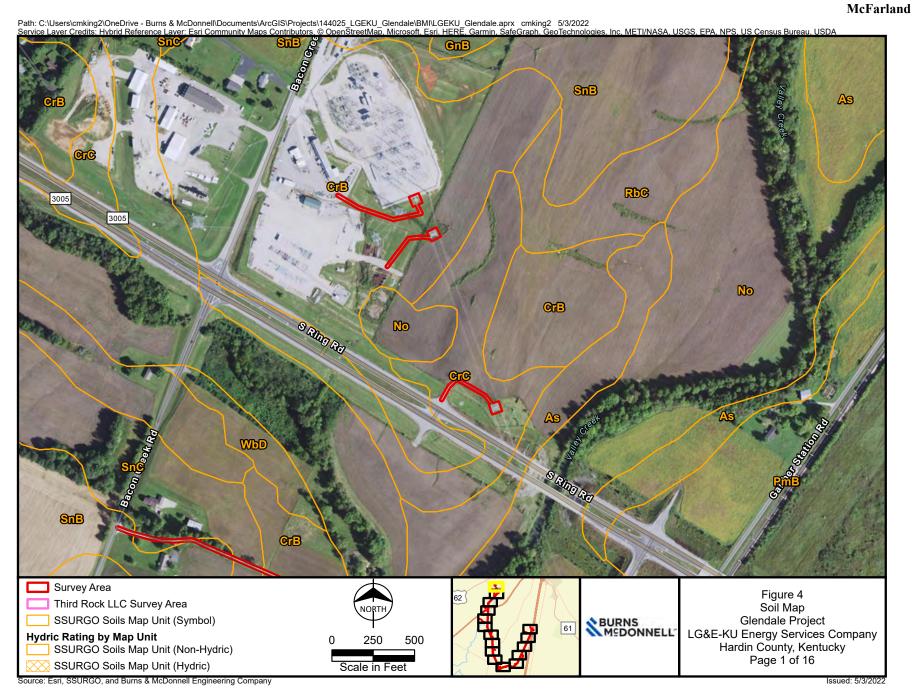


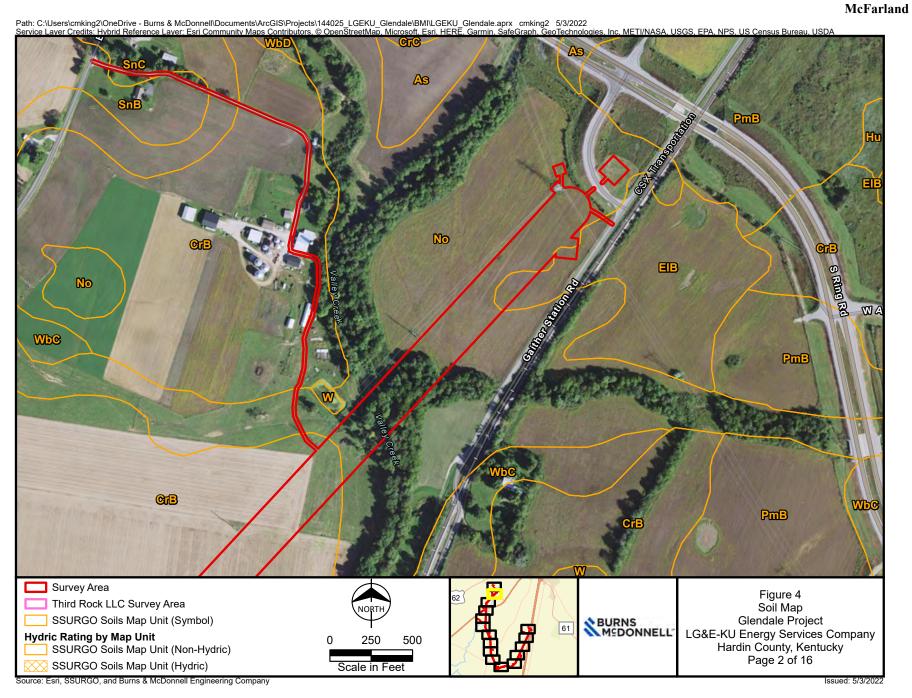


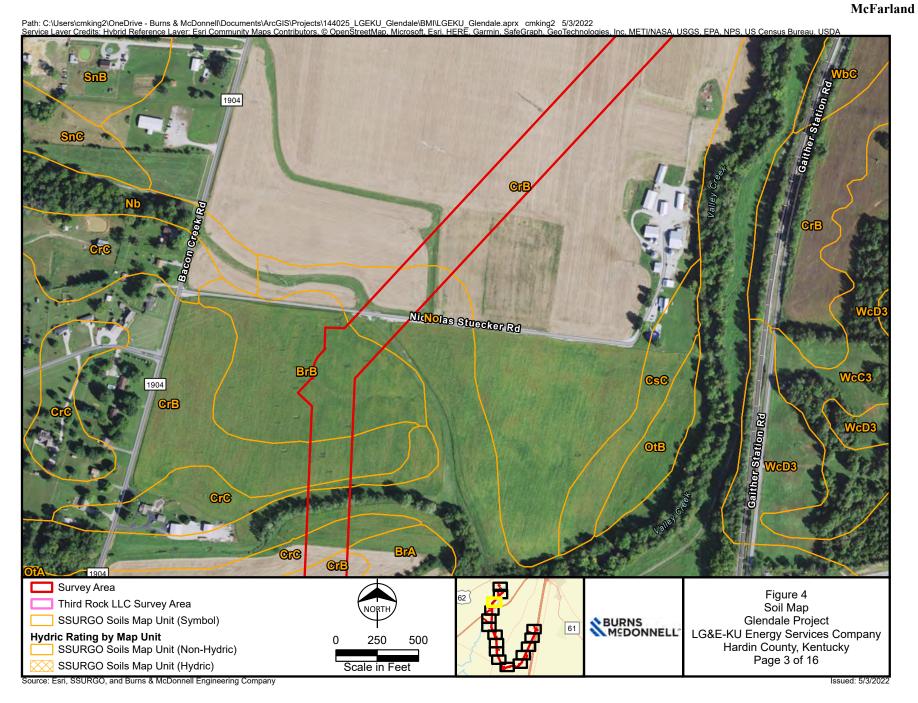


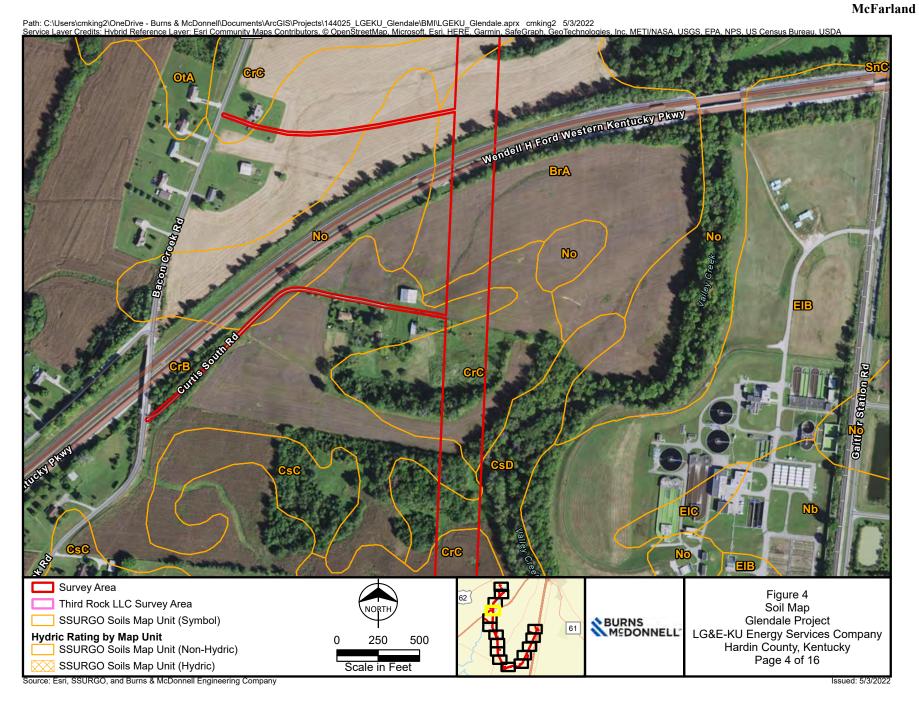


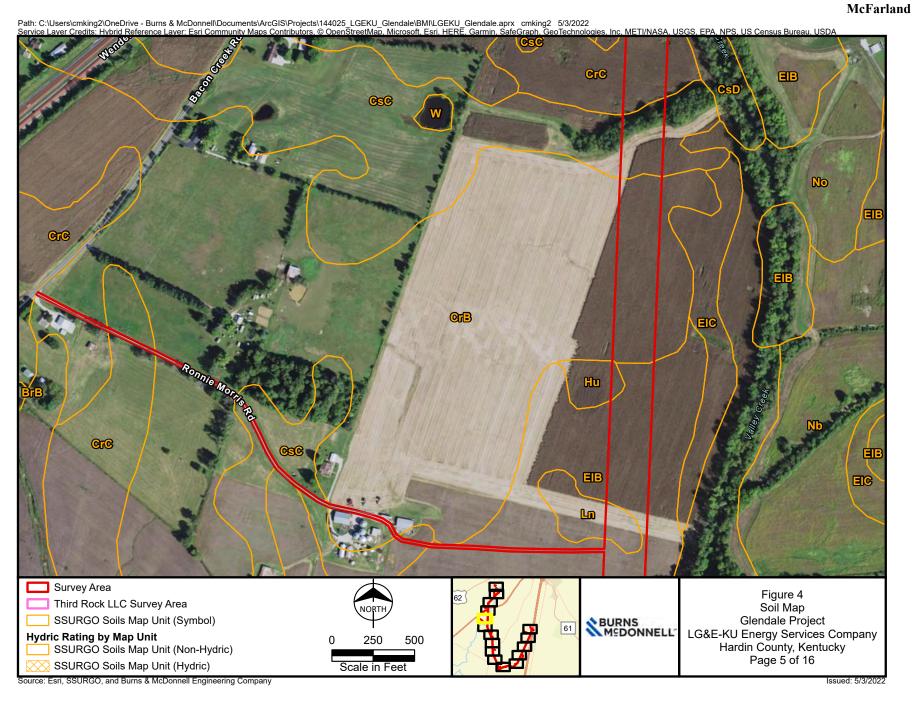


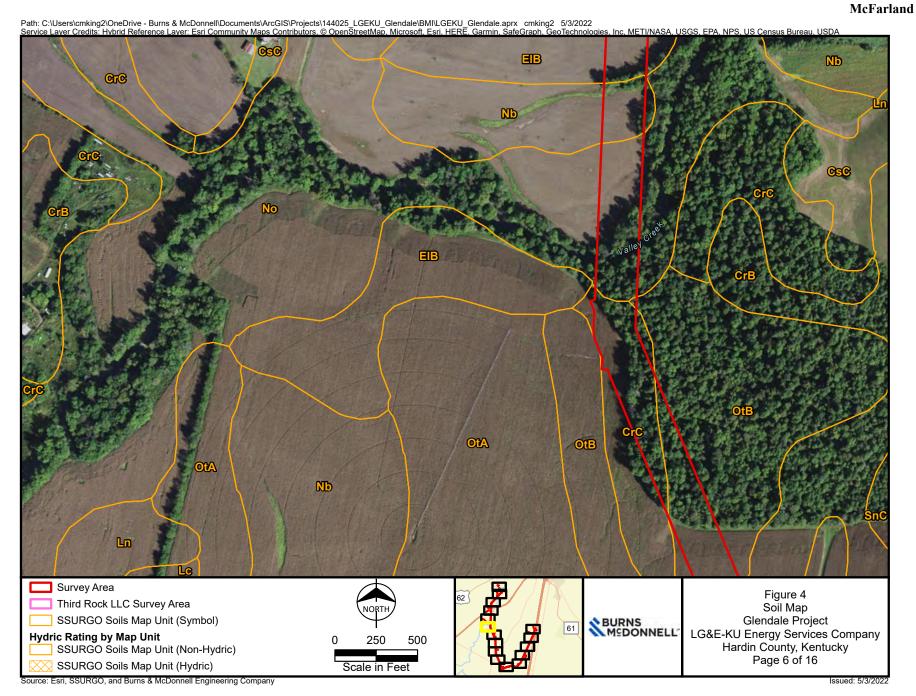


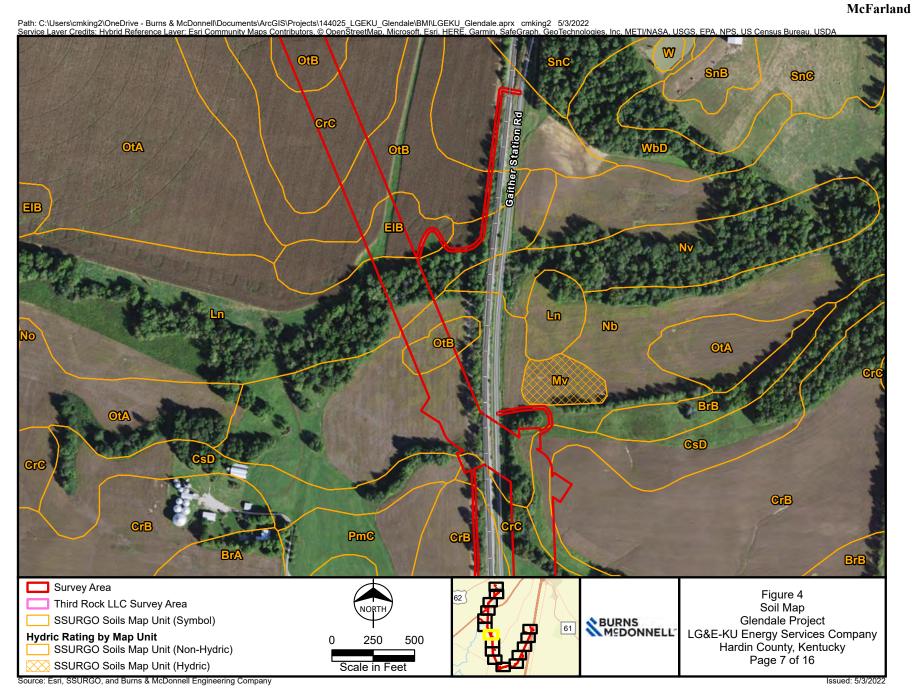


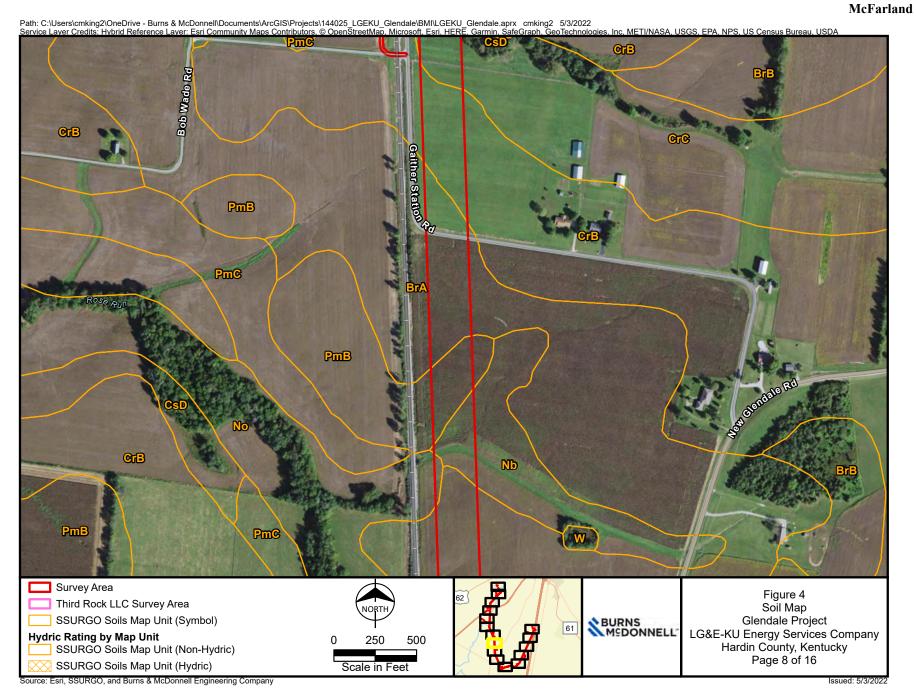


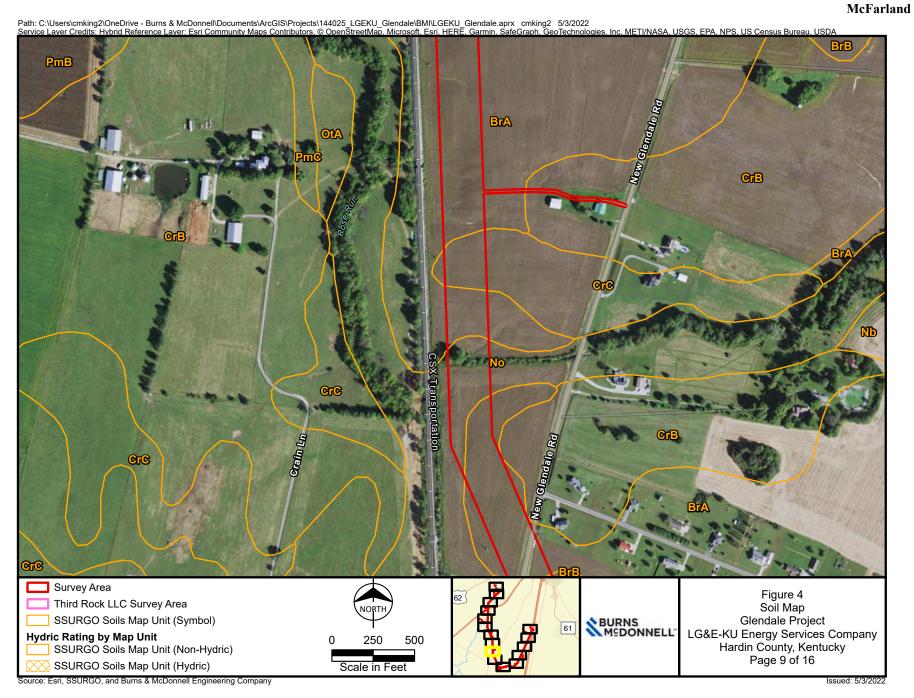


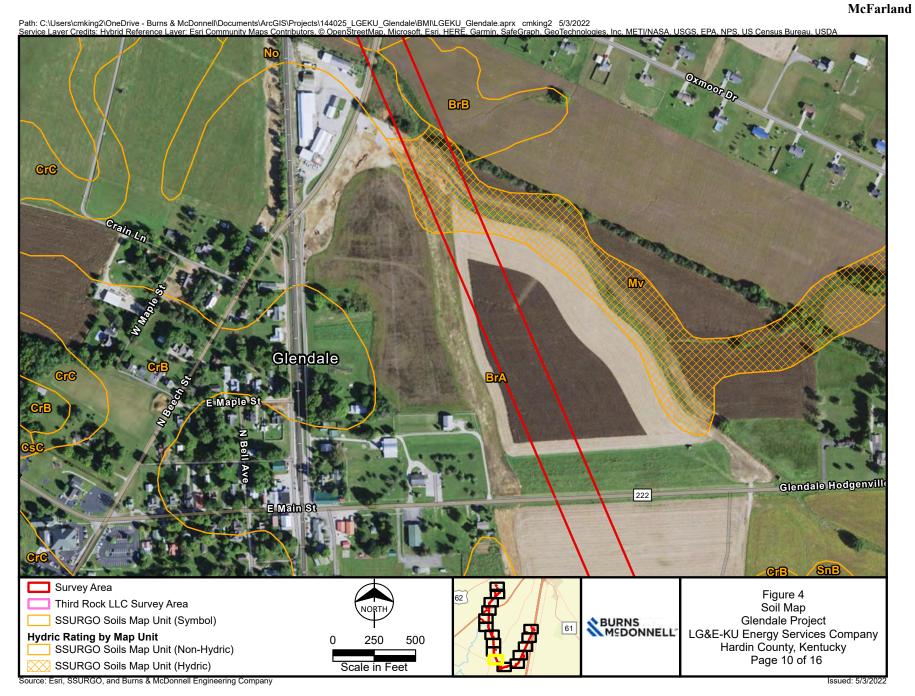


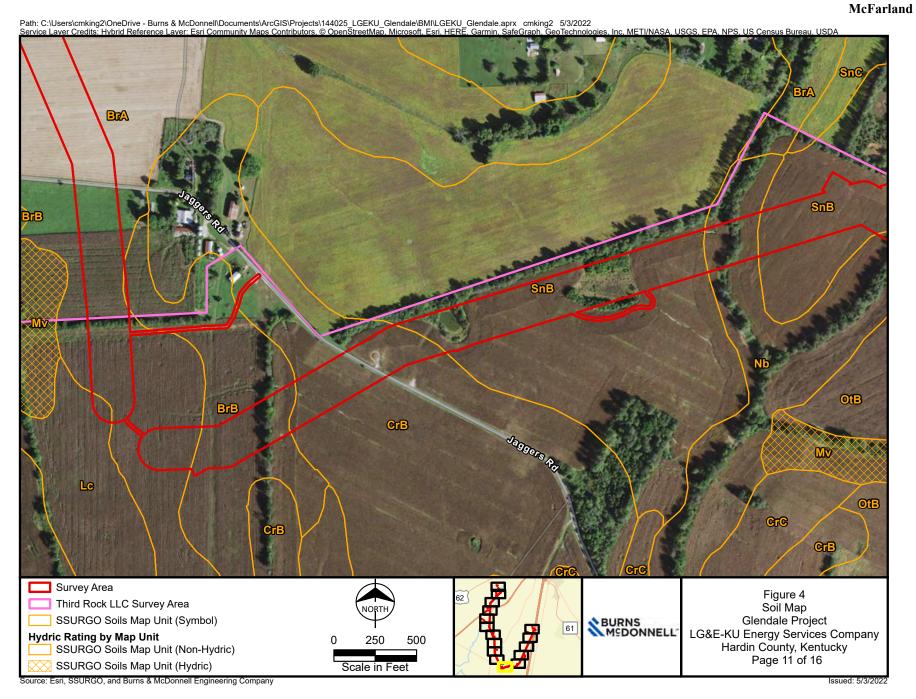


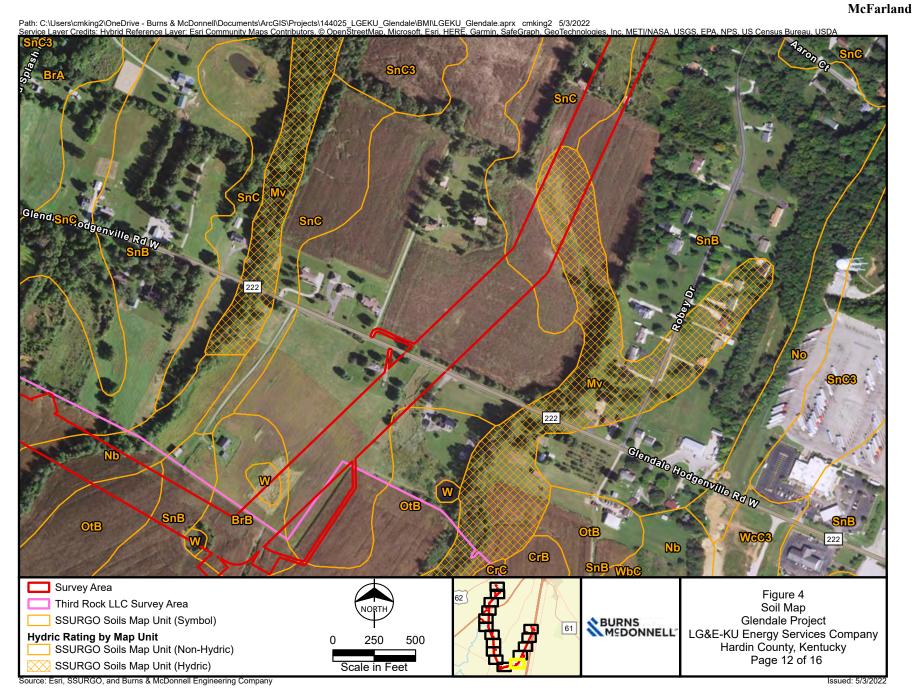


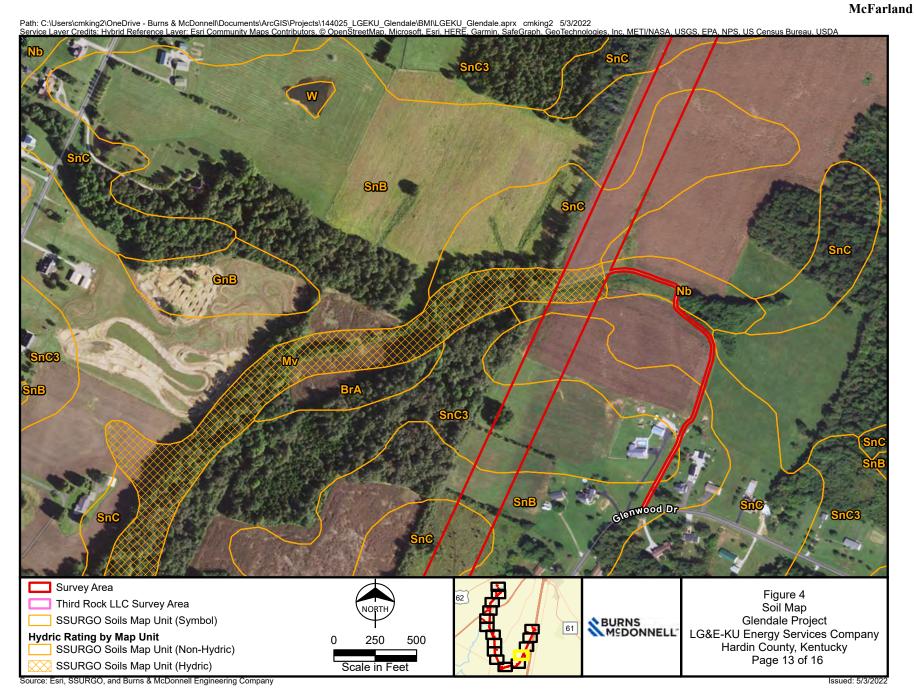


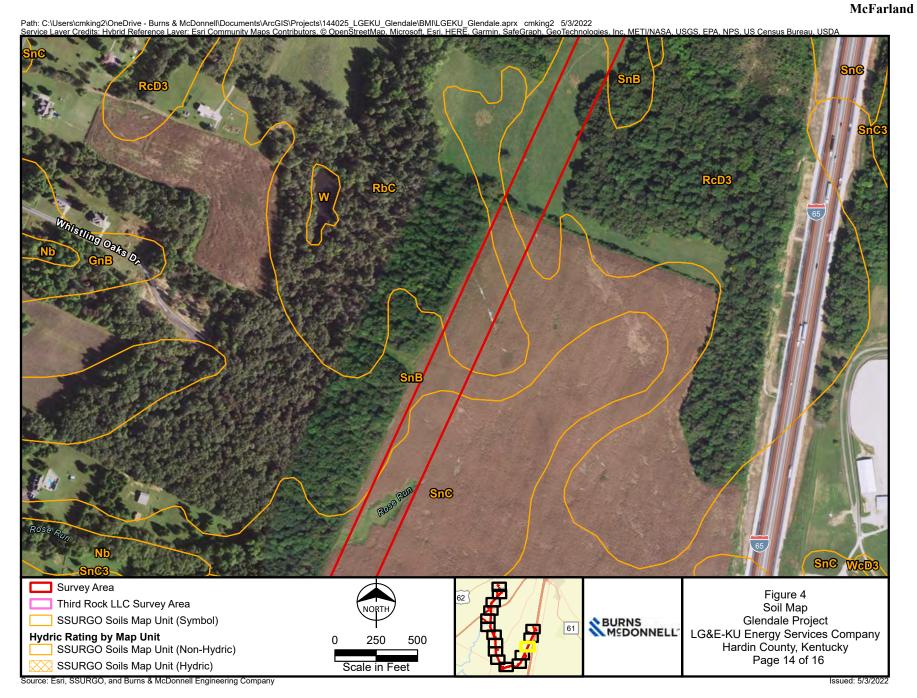


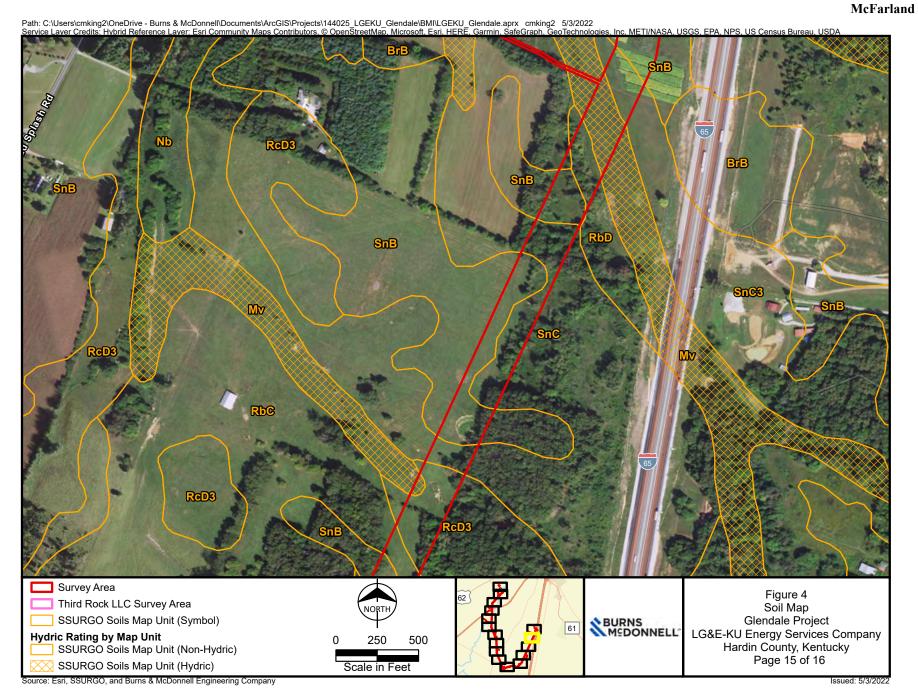








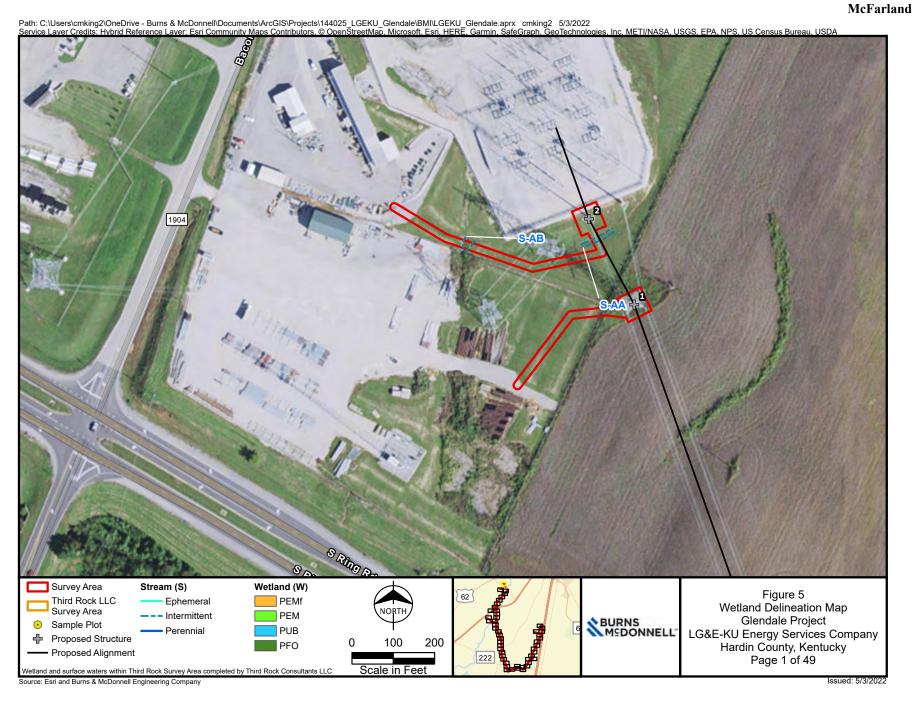


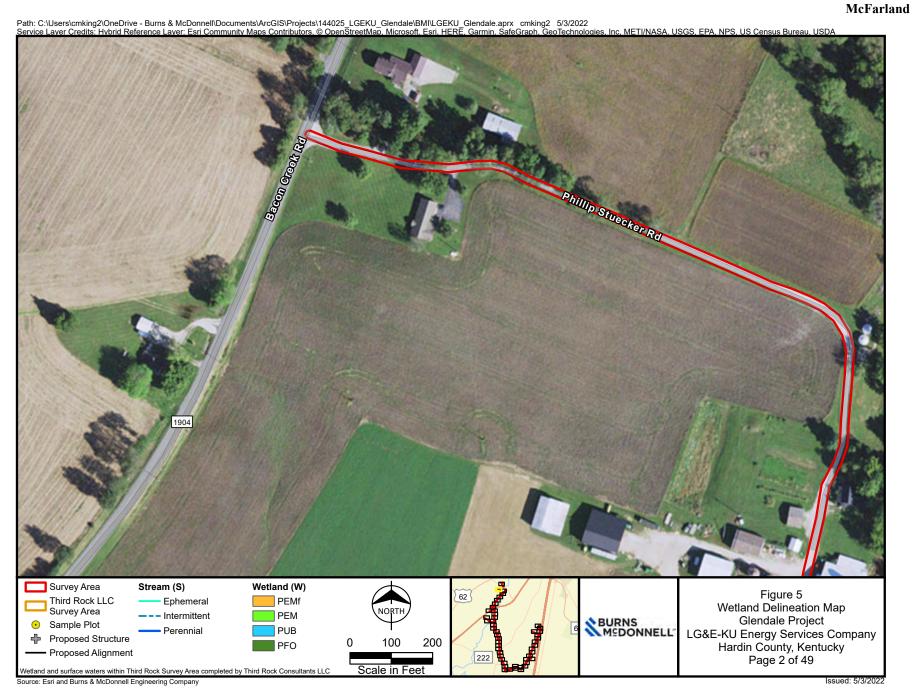


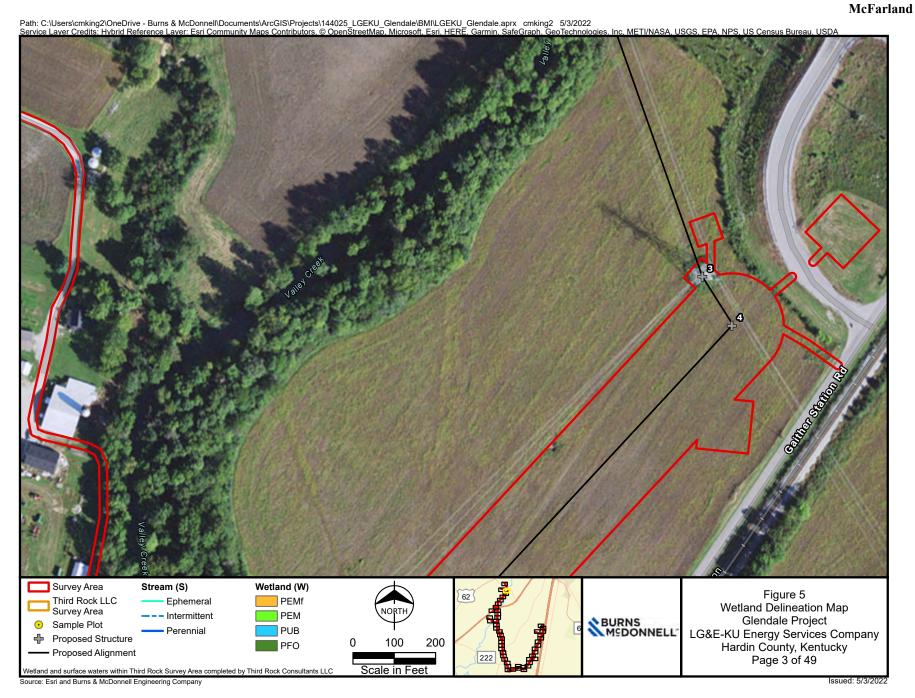
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Path: C:\Users\cmking2\OneDrive - Burns & McDonnell\Documents\ArcGIS\Projects\144025 LGEKU\_Glendale\BMI\LGEKU\_Glendale.aprx cmking2 5/3/2022 Service Layer Credits: Hybrid Reference Layer: Esri Community Maps Contributors, @ OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnology Meadow VW Dr W **enB** Survey Area Figure 4 Soil Map Glendale Project LG&E-KU Energy Services Company Hardin County, Kentucky Page 16 of 16 Third Rock LLC Survey Area SSURGO Soils Map Unit (Symbol) SBURNS MEDONNELL Hydric Rating by Map Unit
SSURGO Soils Map Unit (Non-Hydric) 500 SSURGO Soils Map Unit (Hydric) Scale in Feet

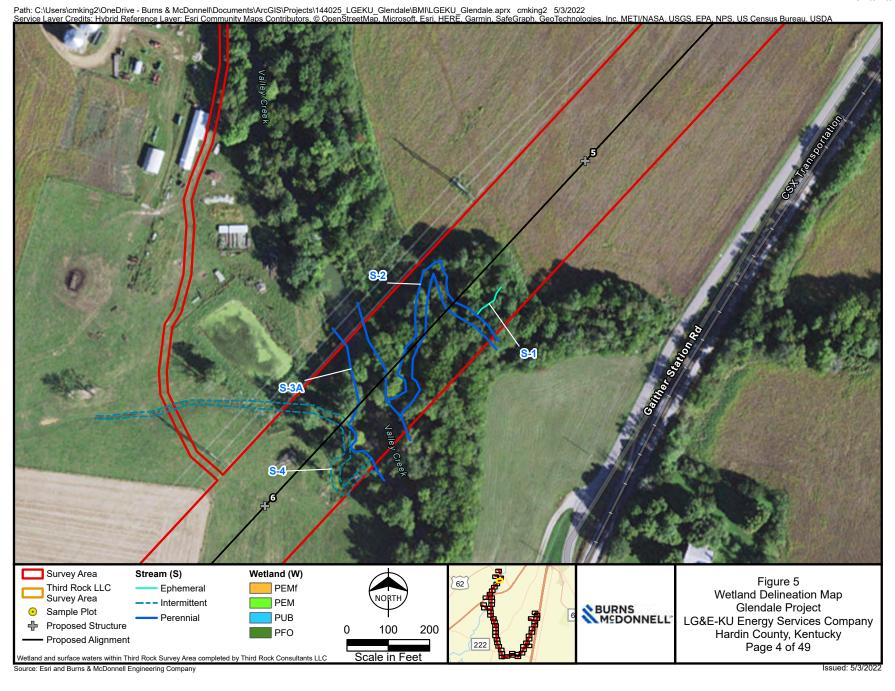
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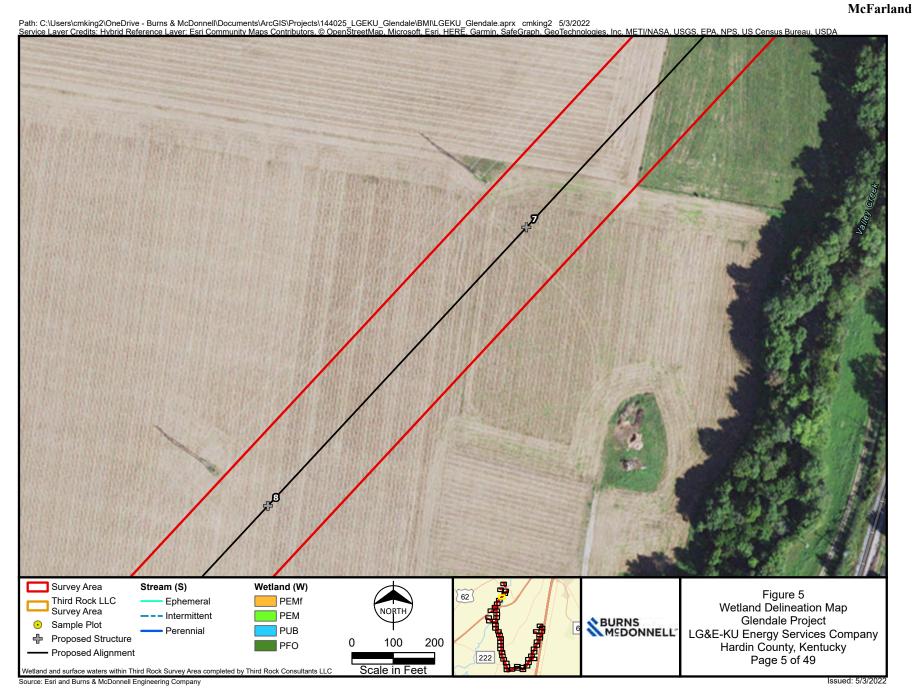


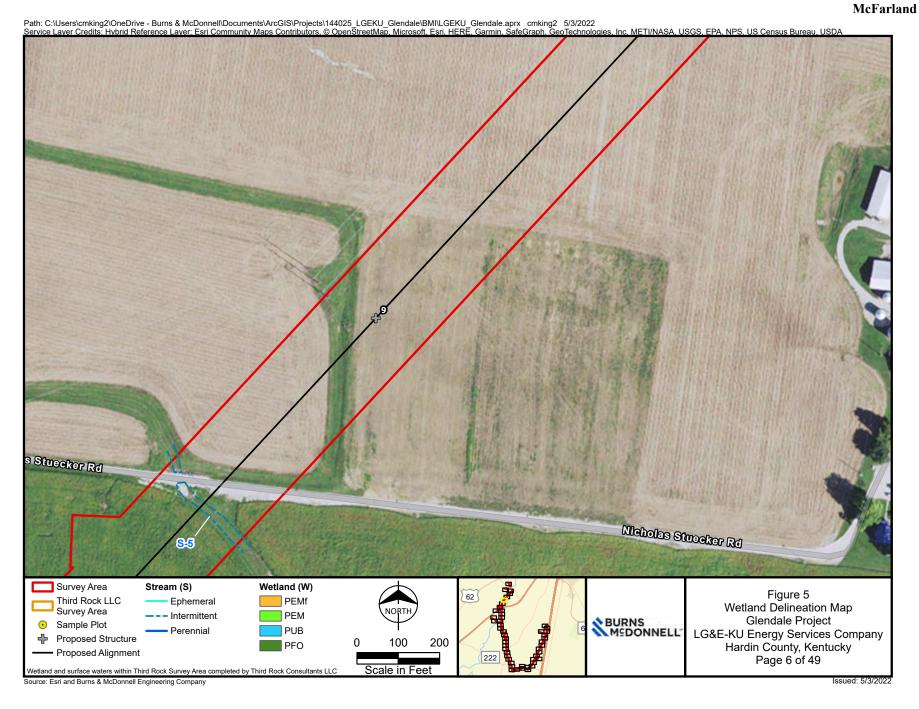


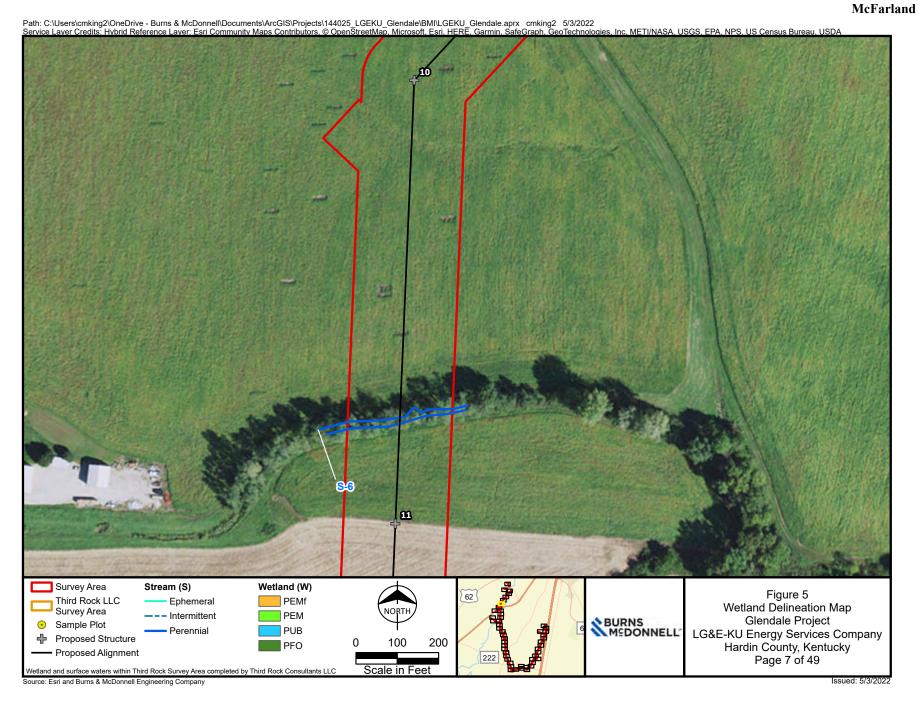


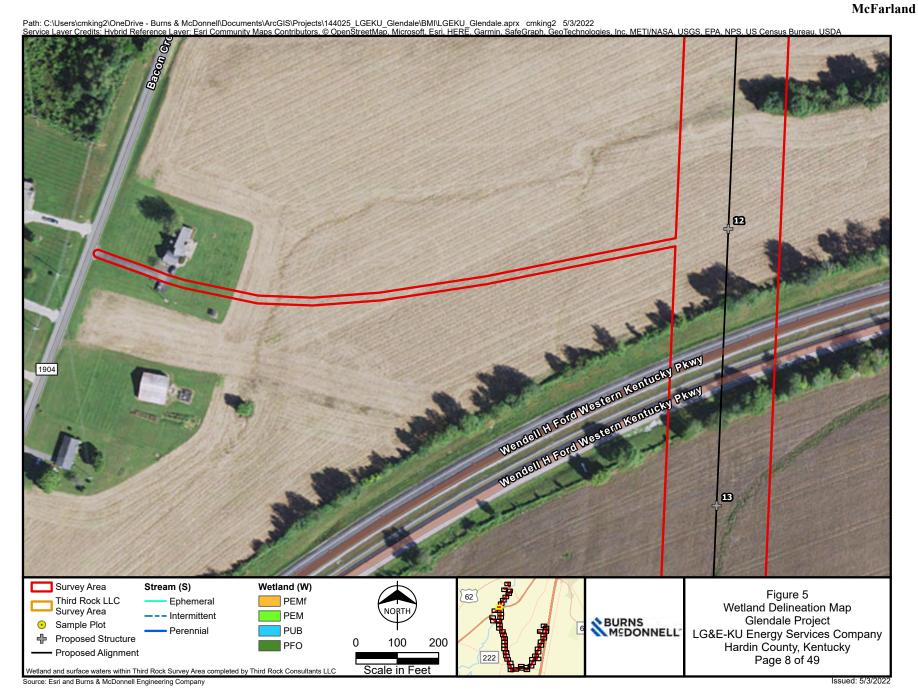


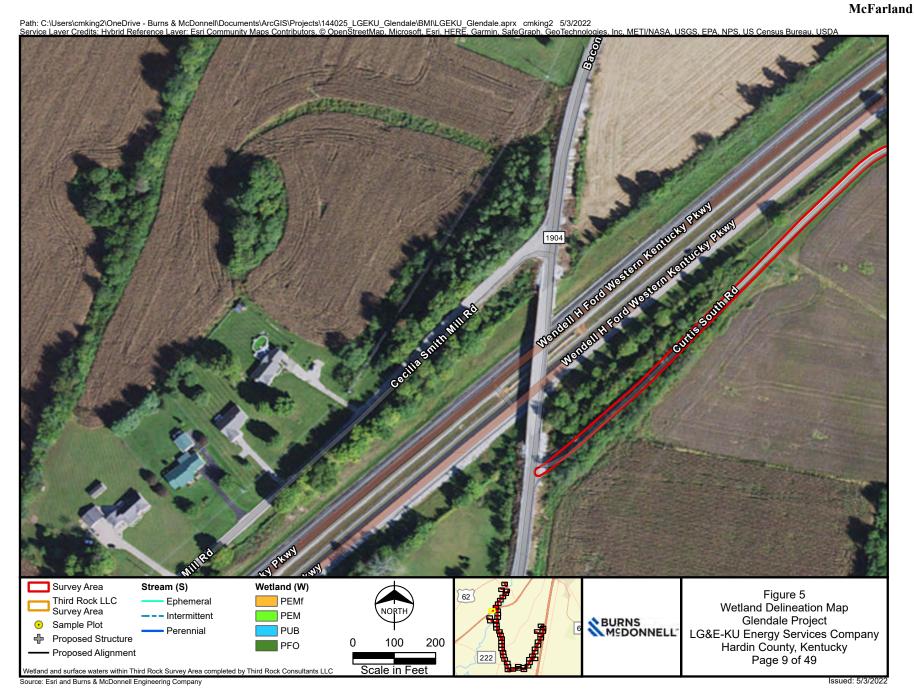


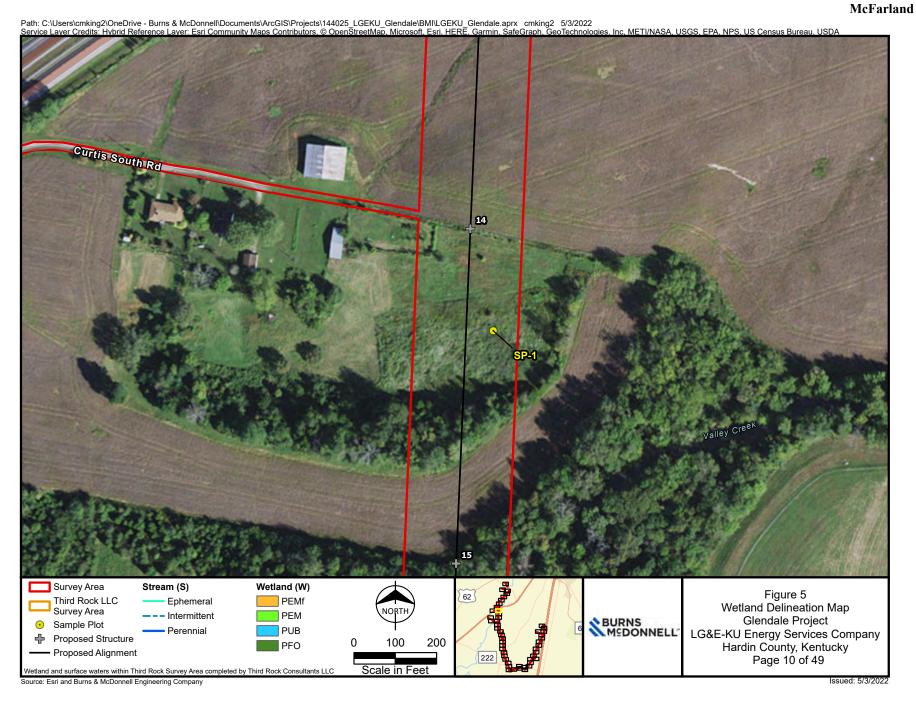


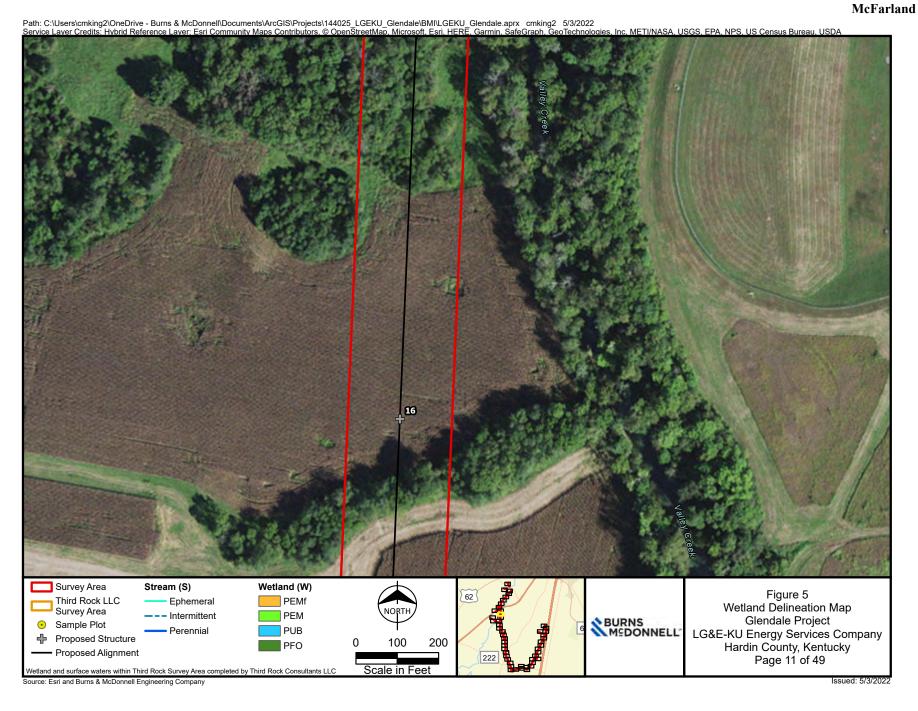


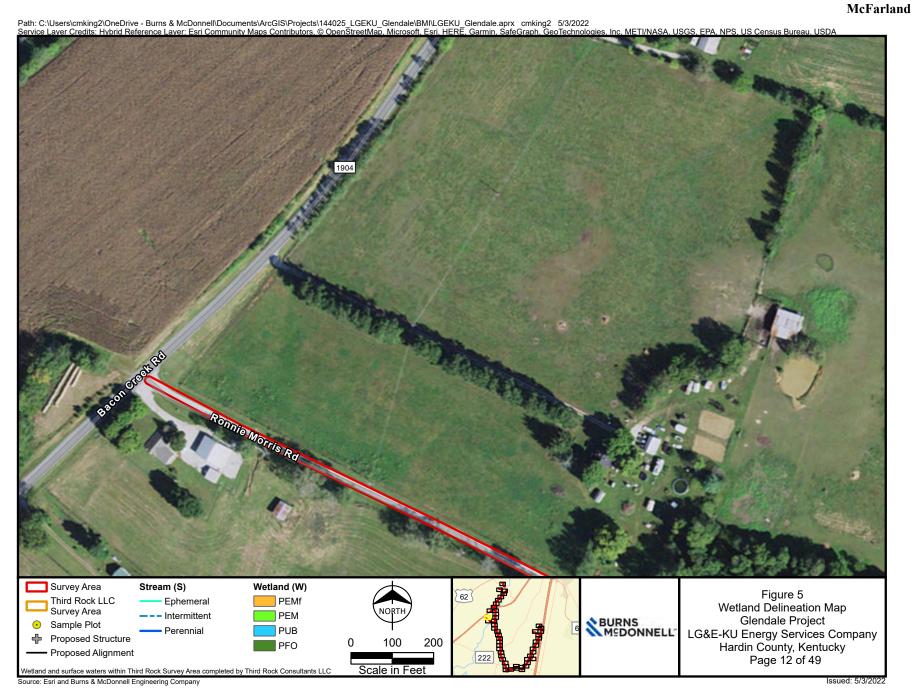


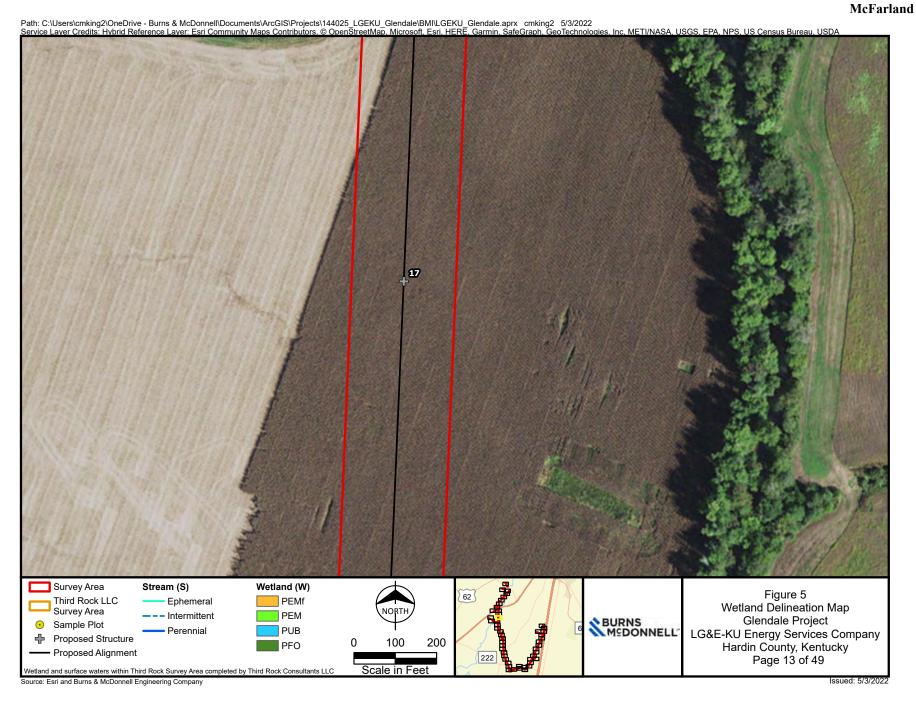


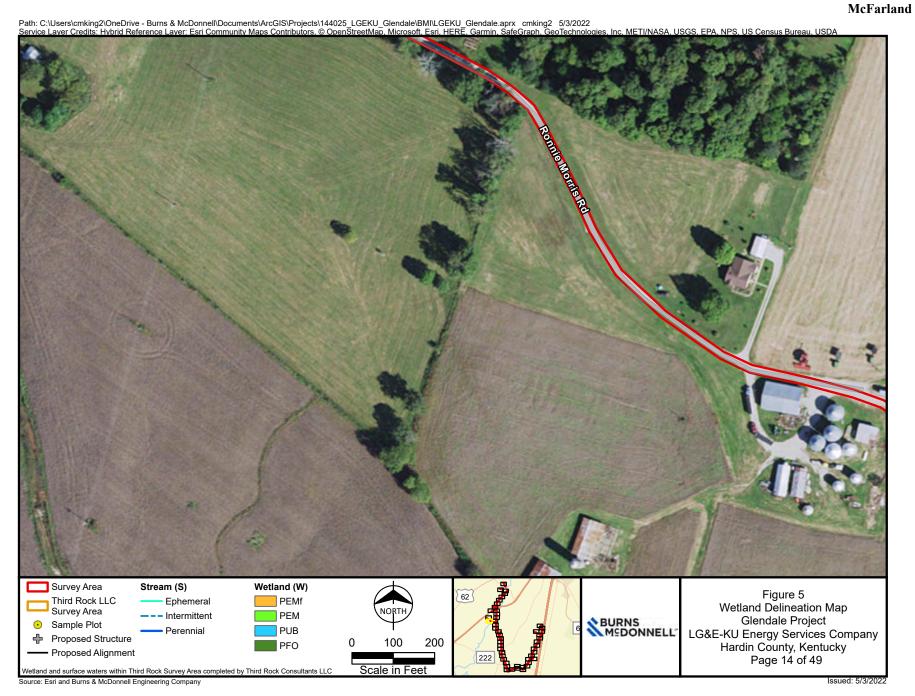


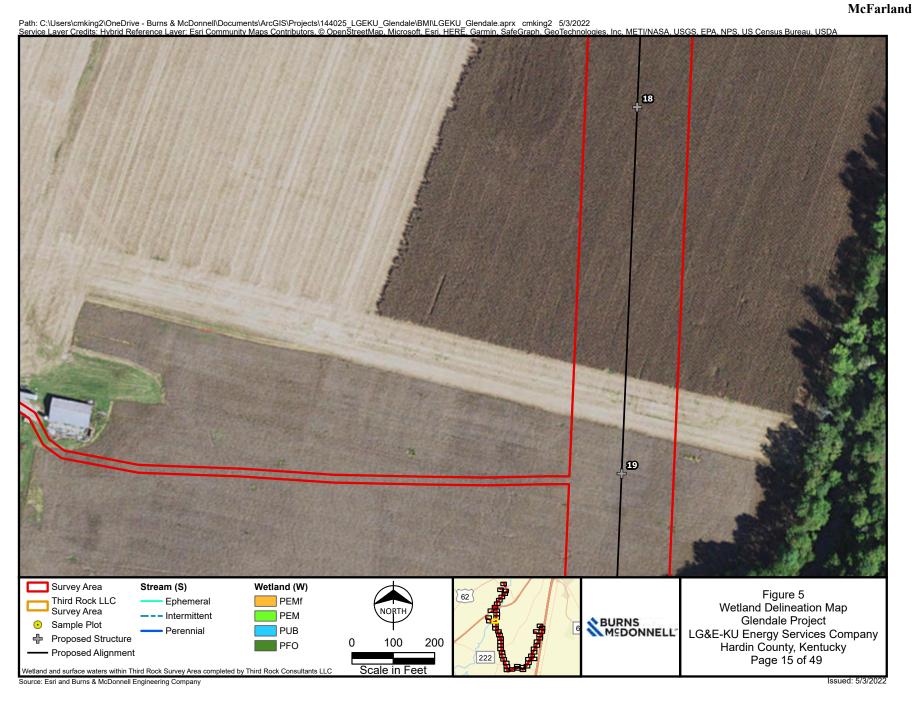


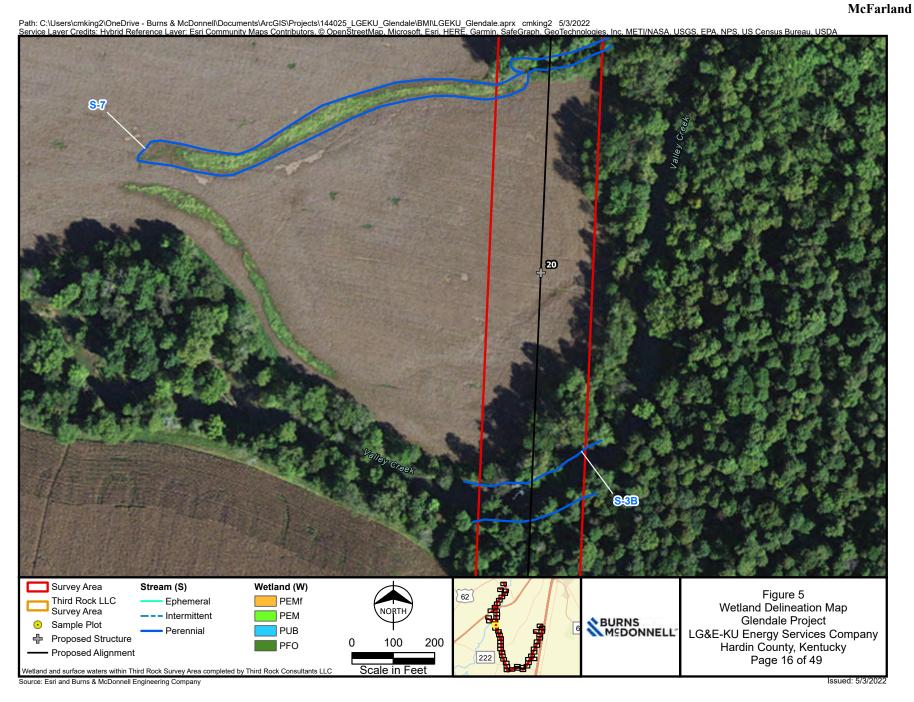


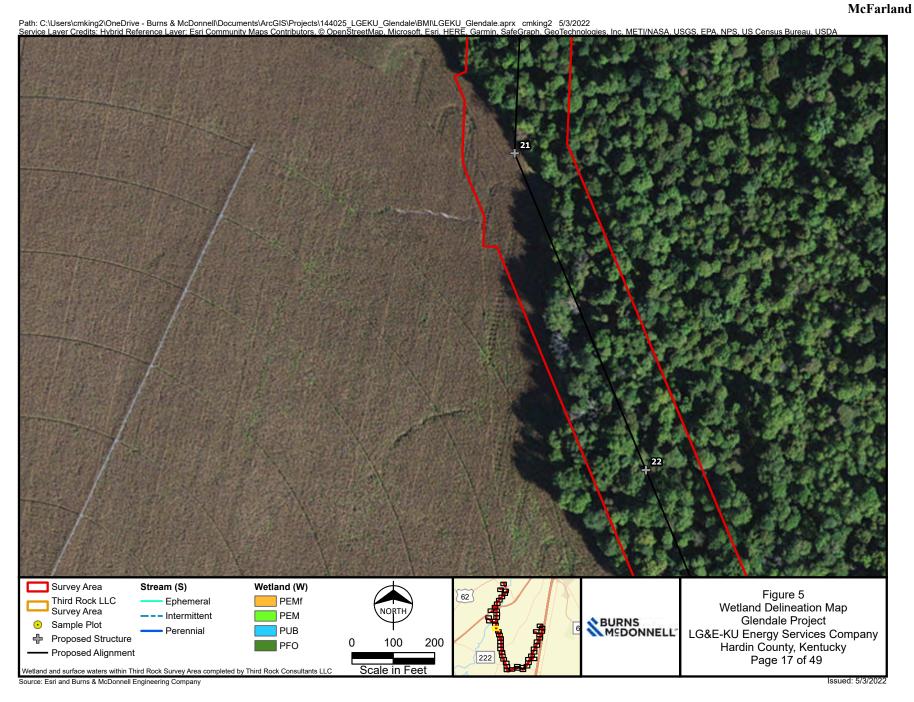


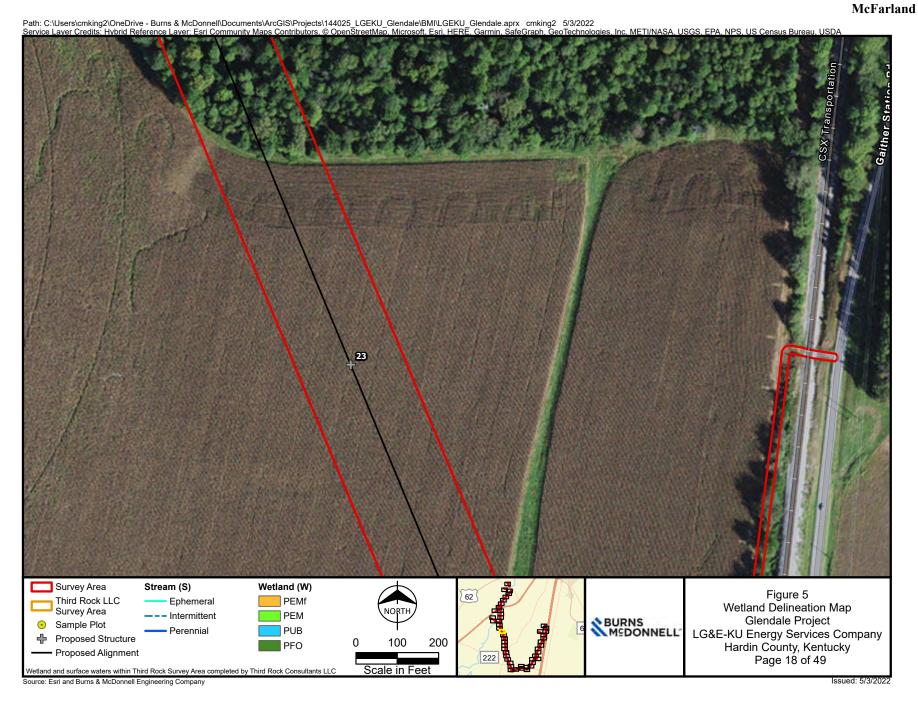


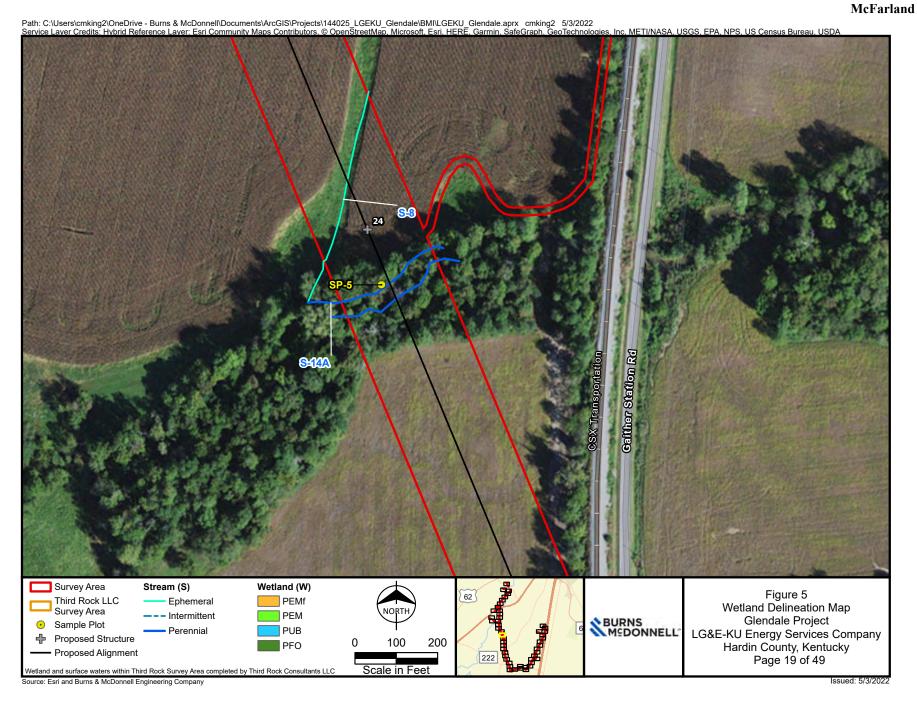


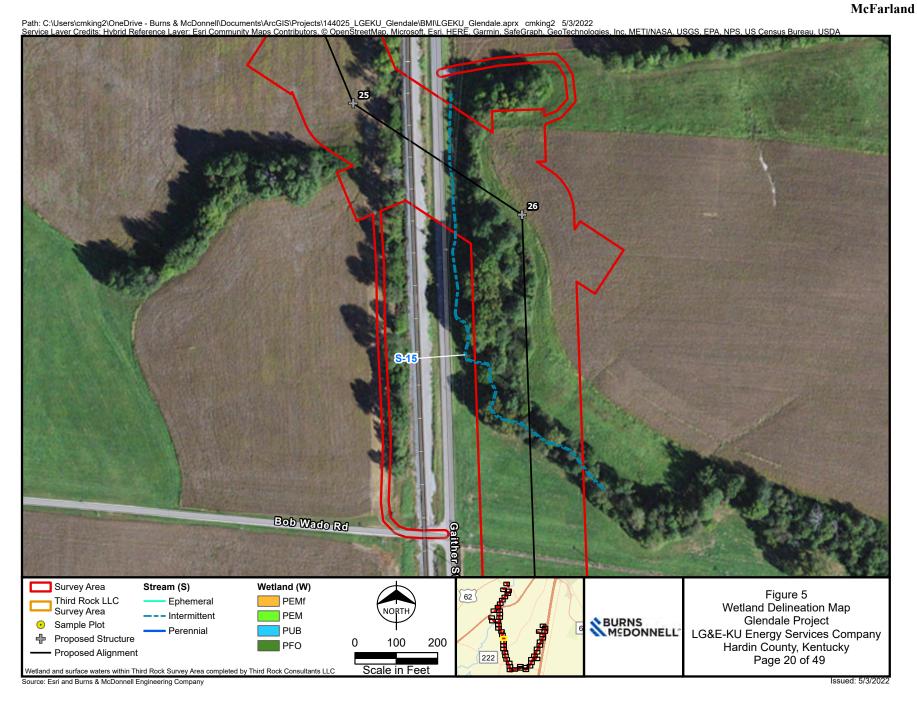


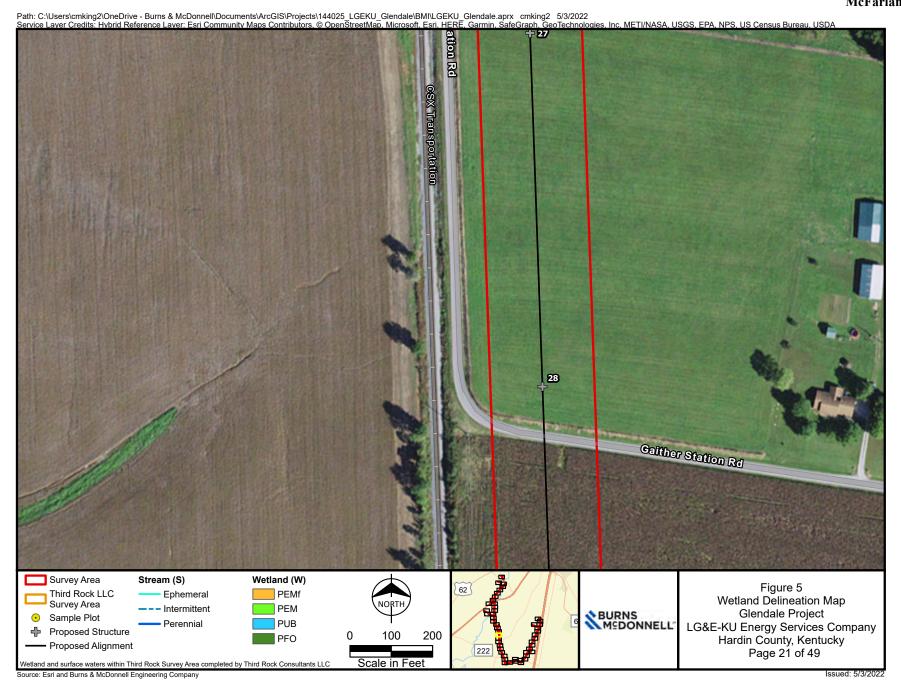


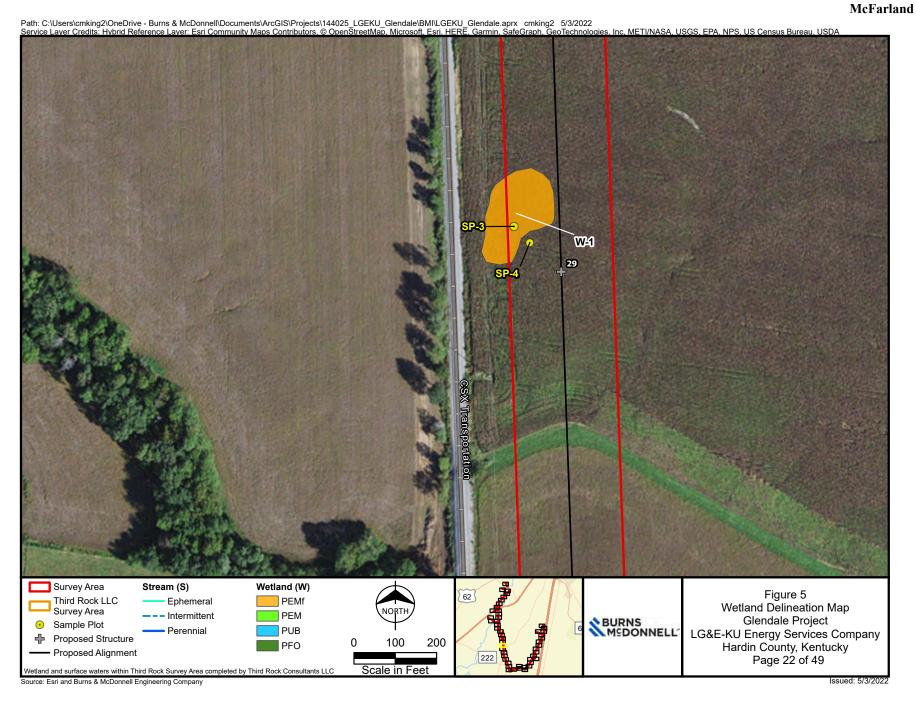


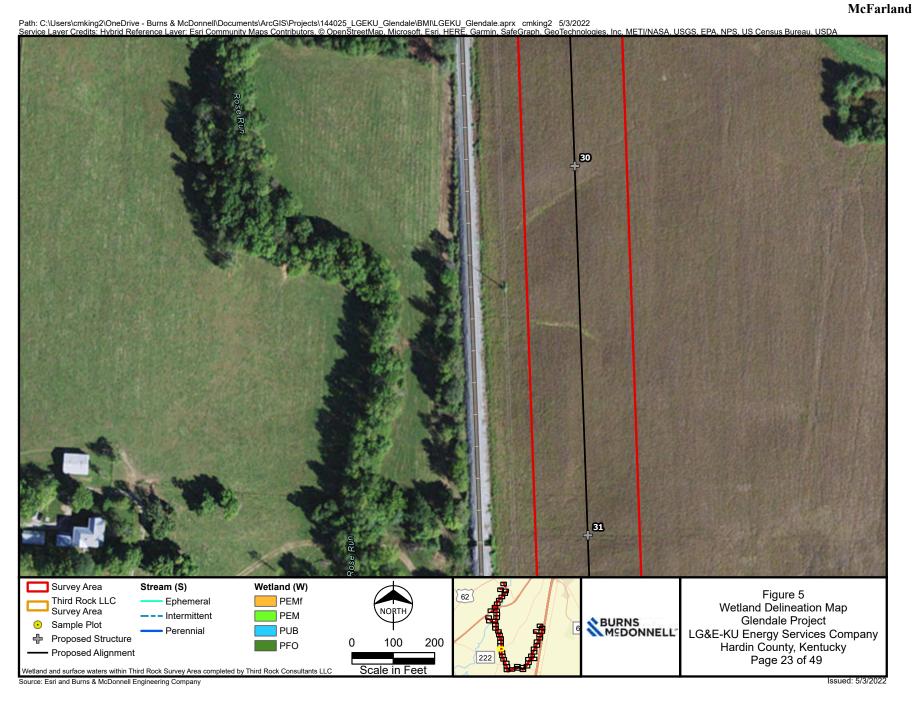


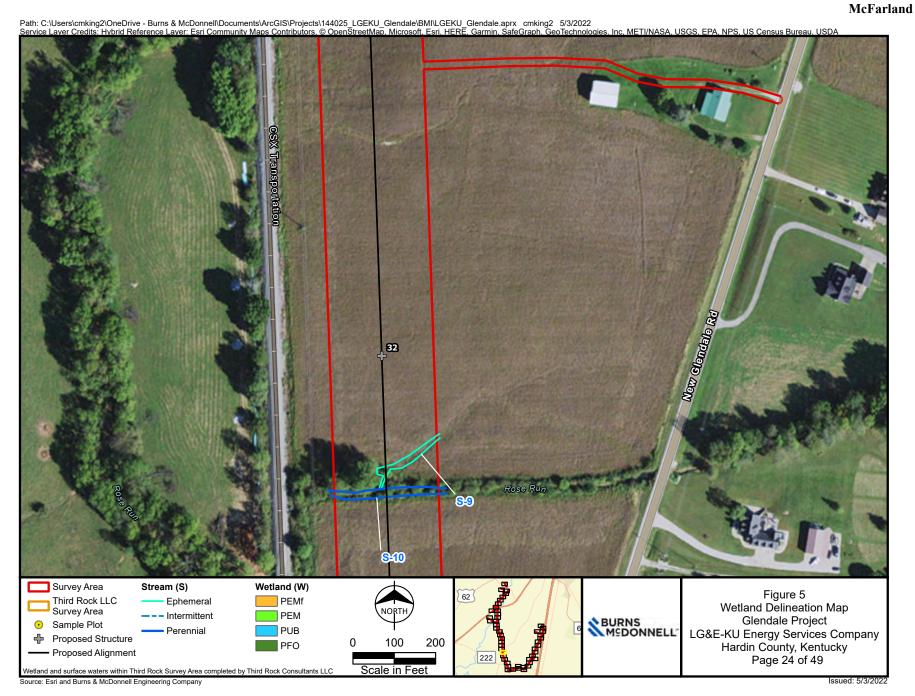


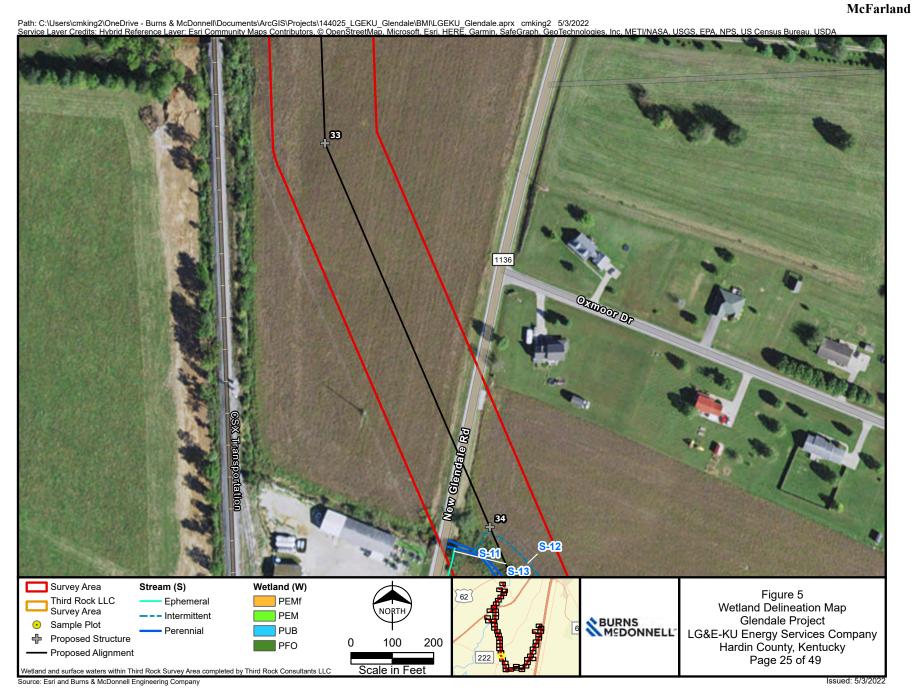


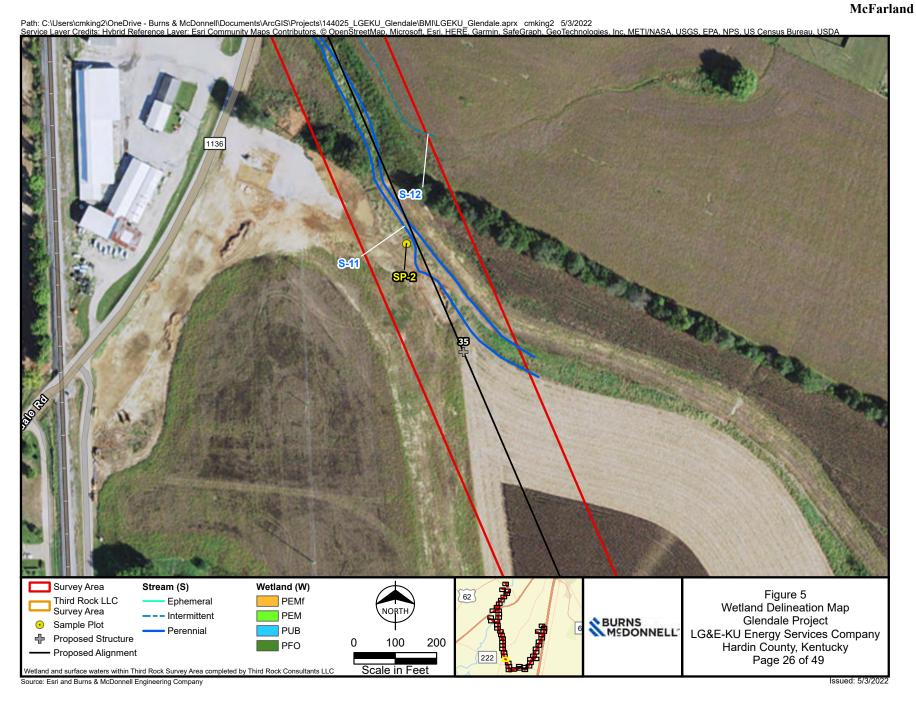


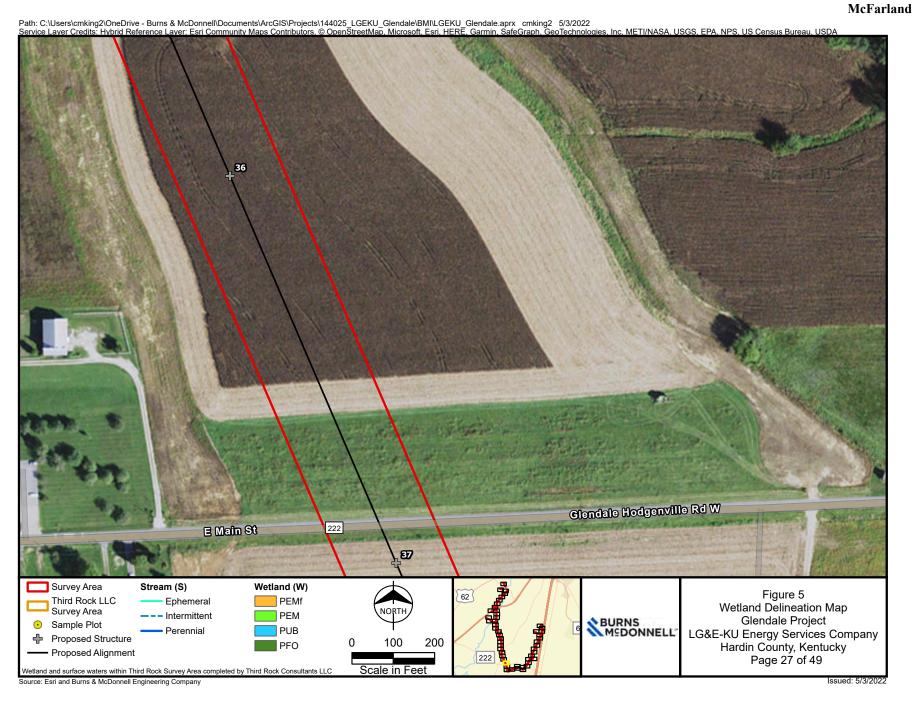


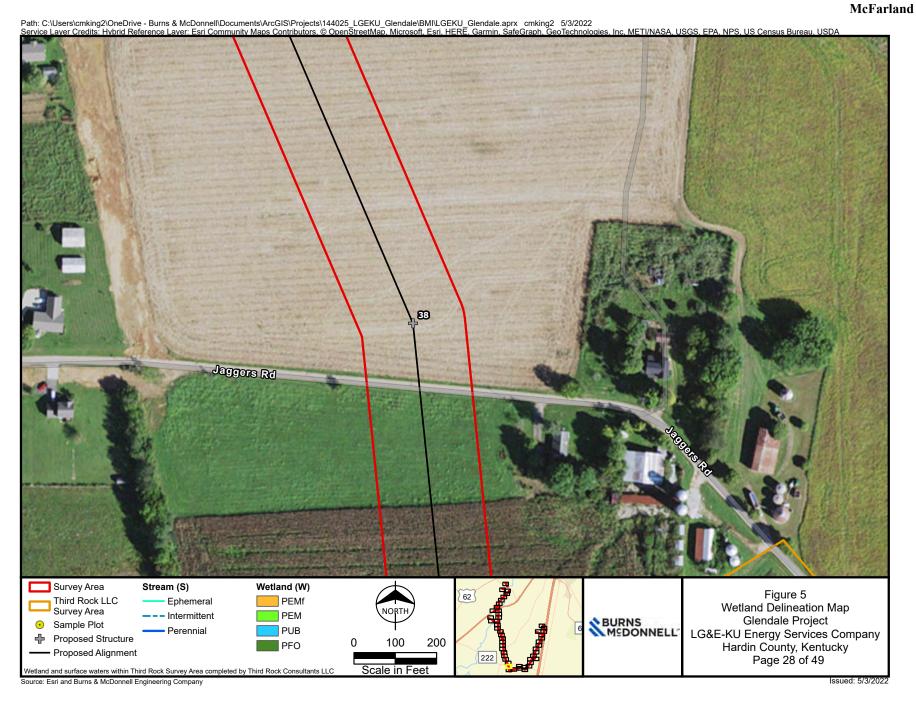


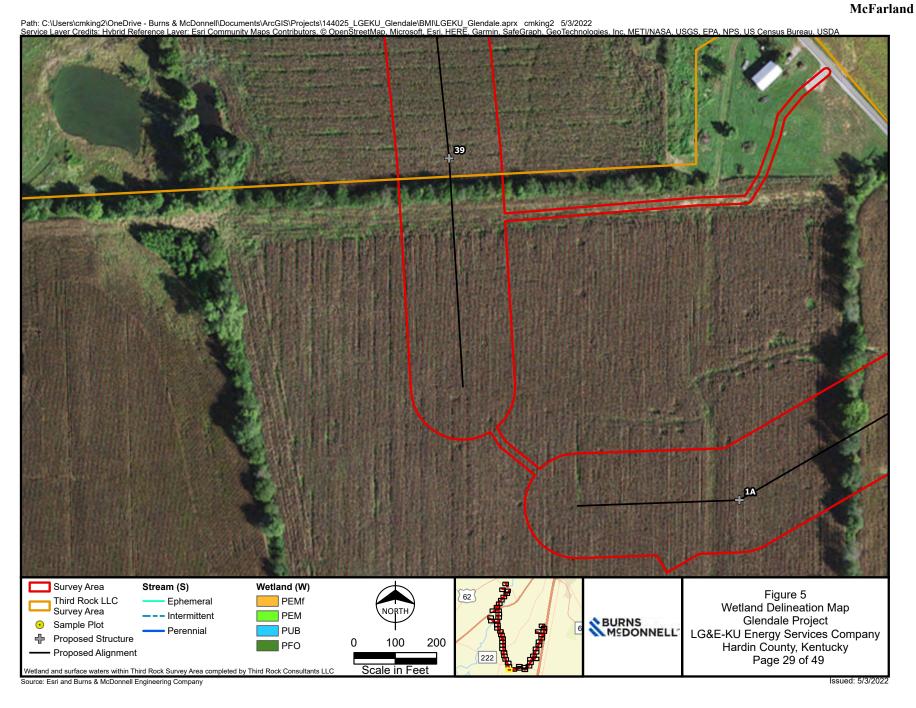


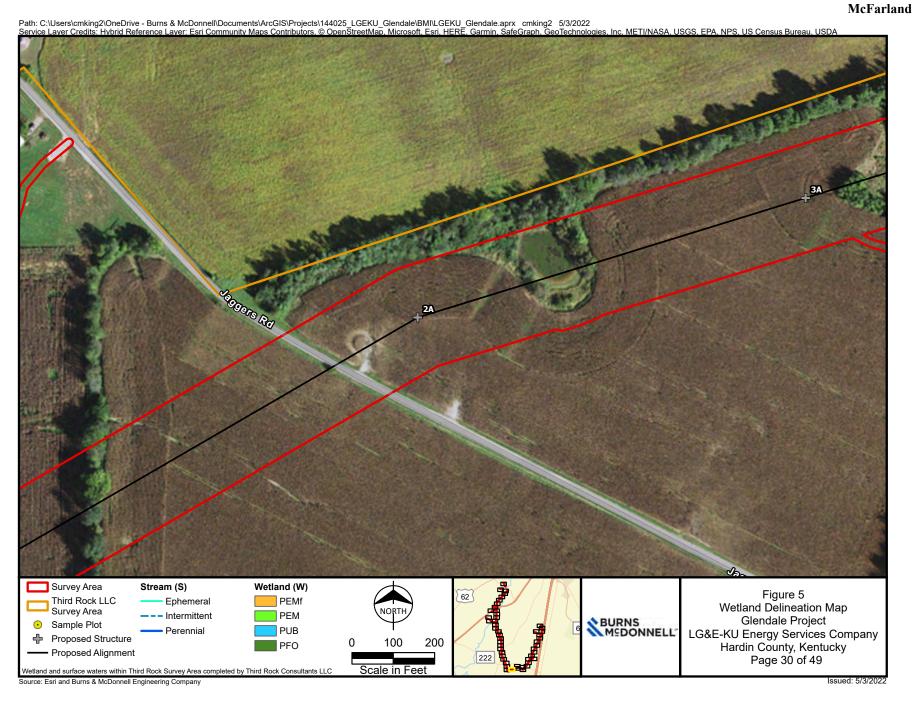


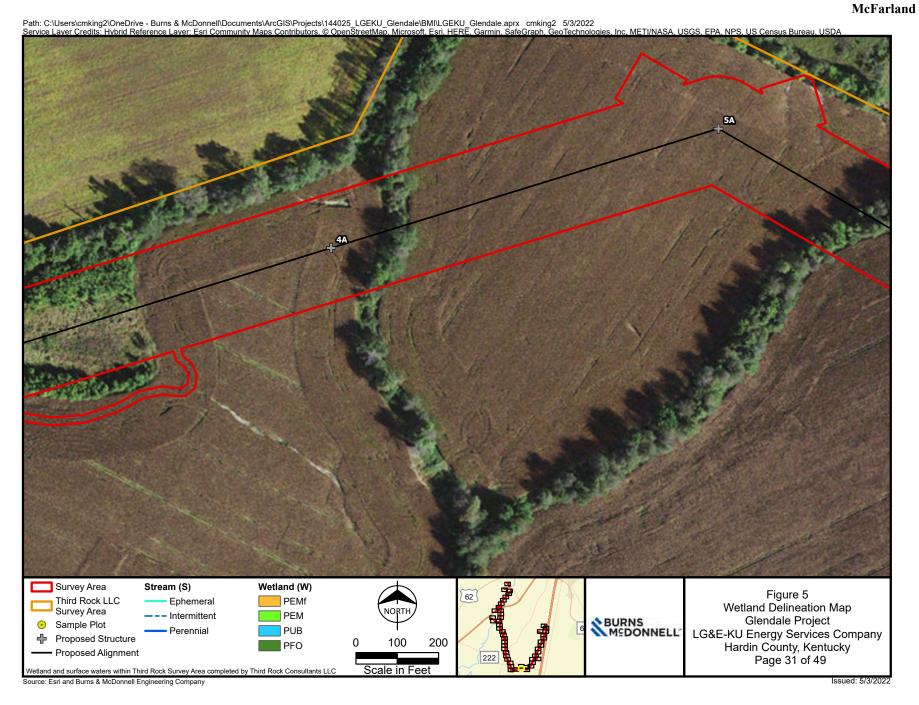


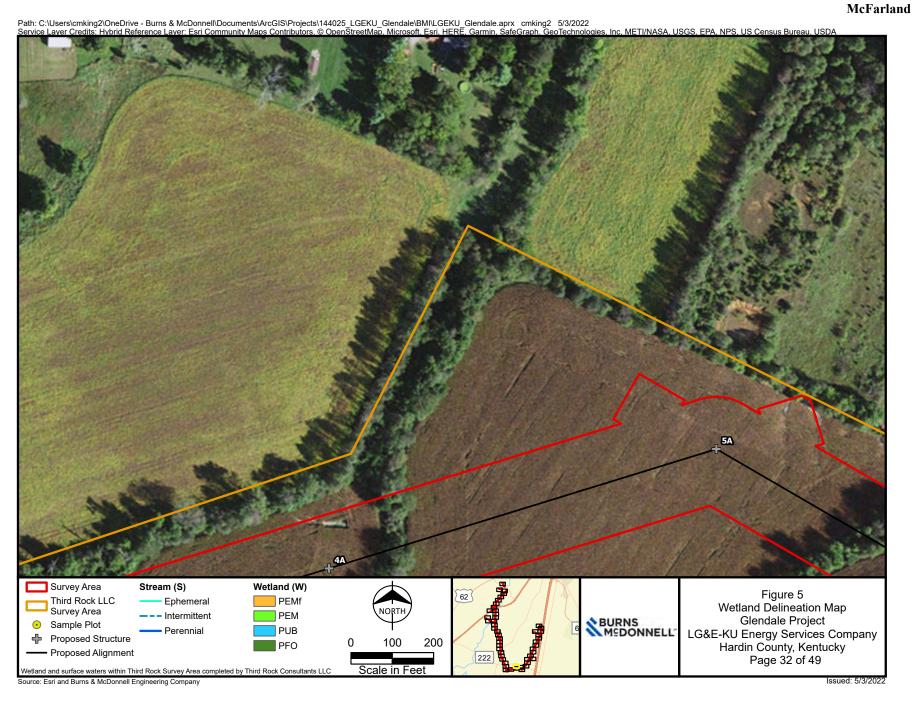


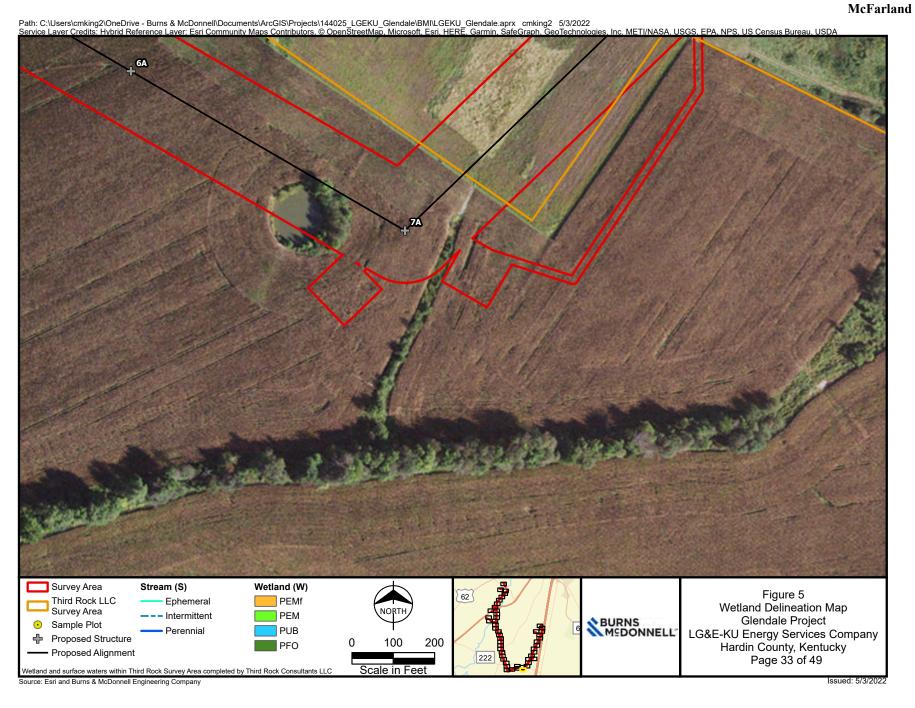


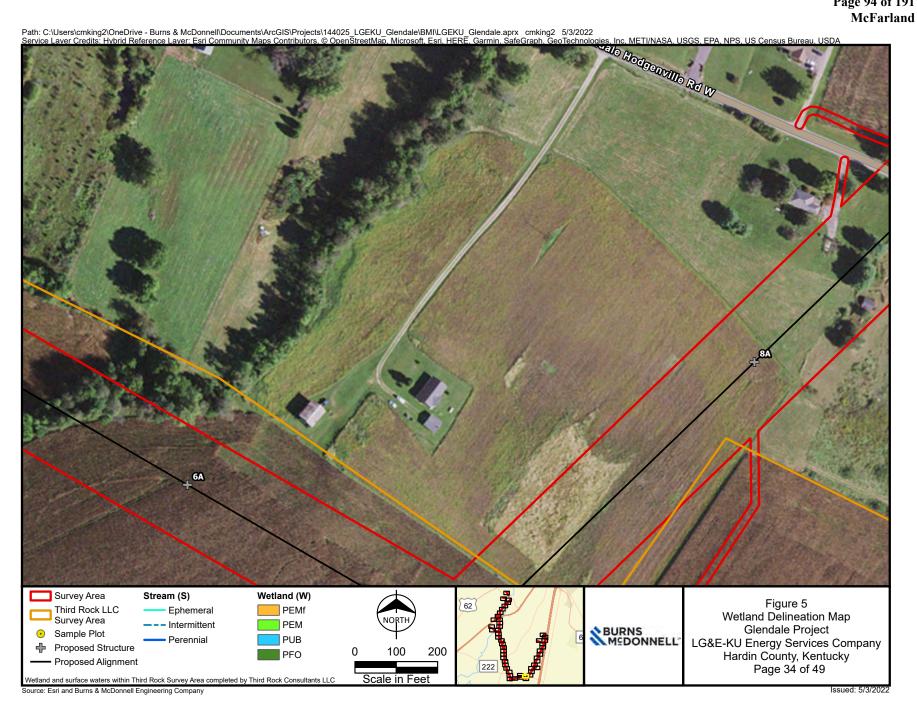


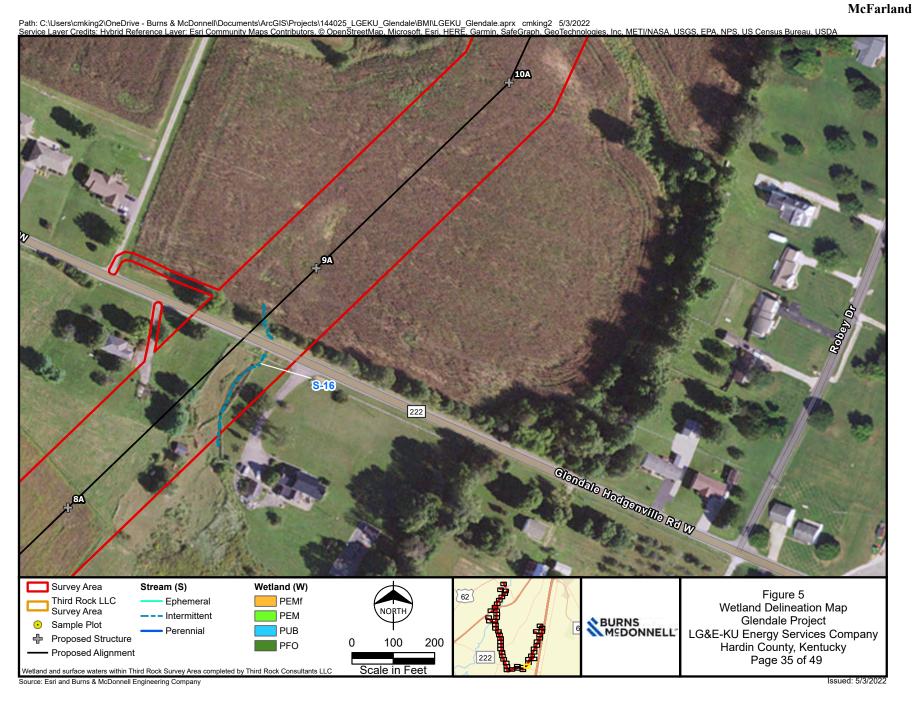


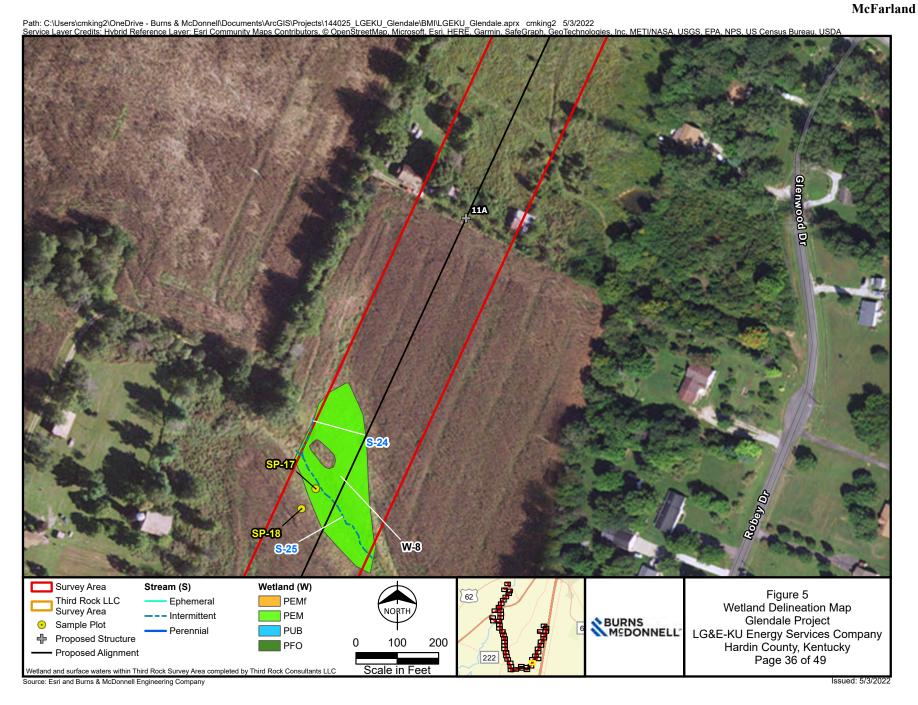


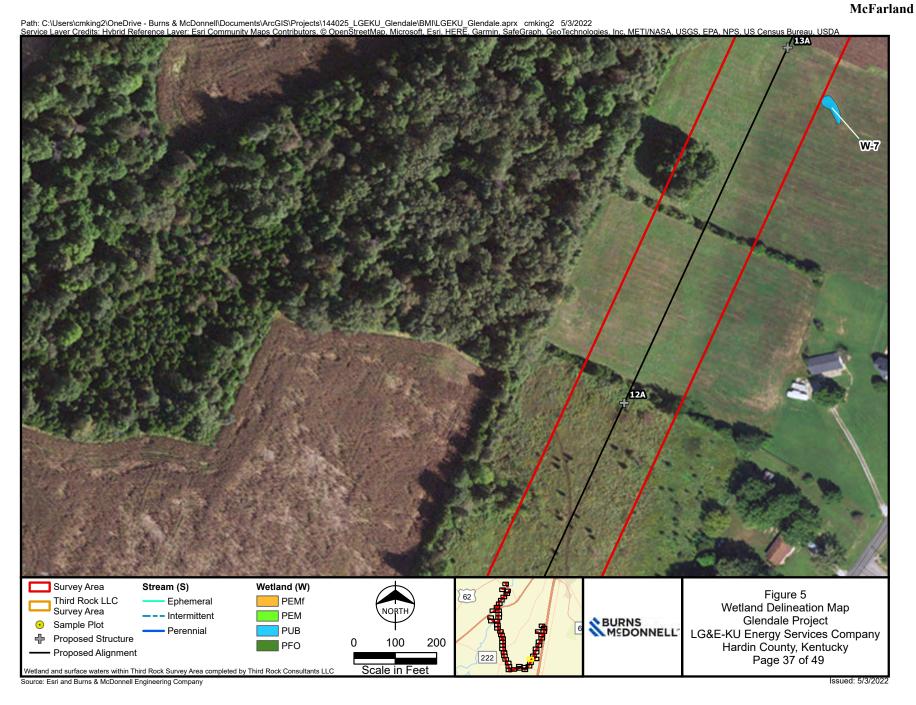


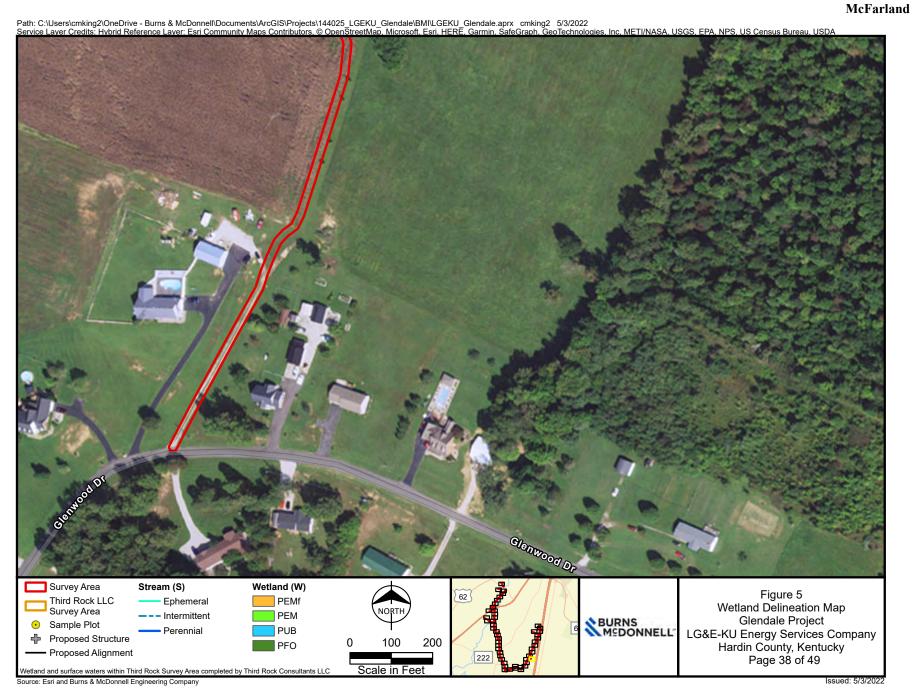


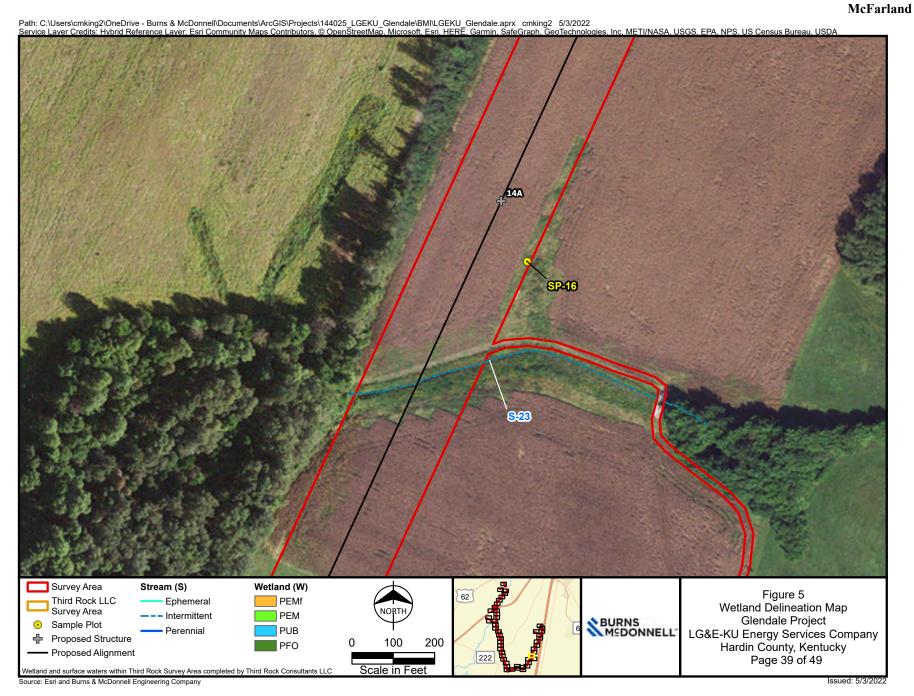


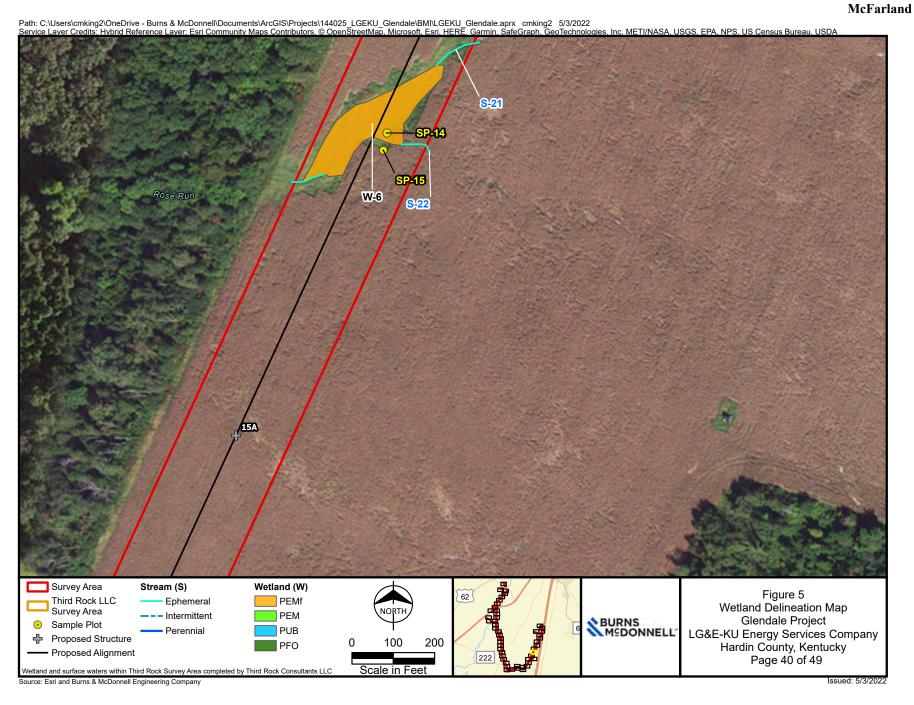


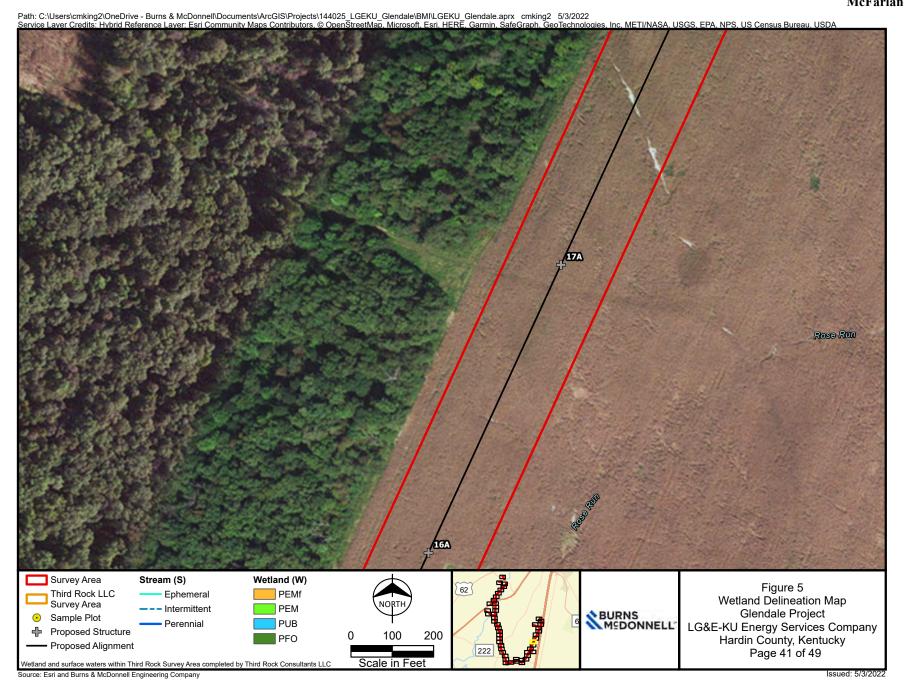


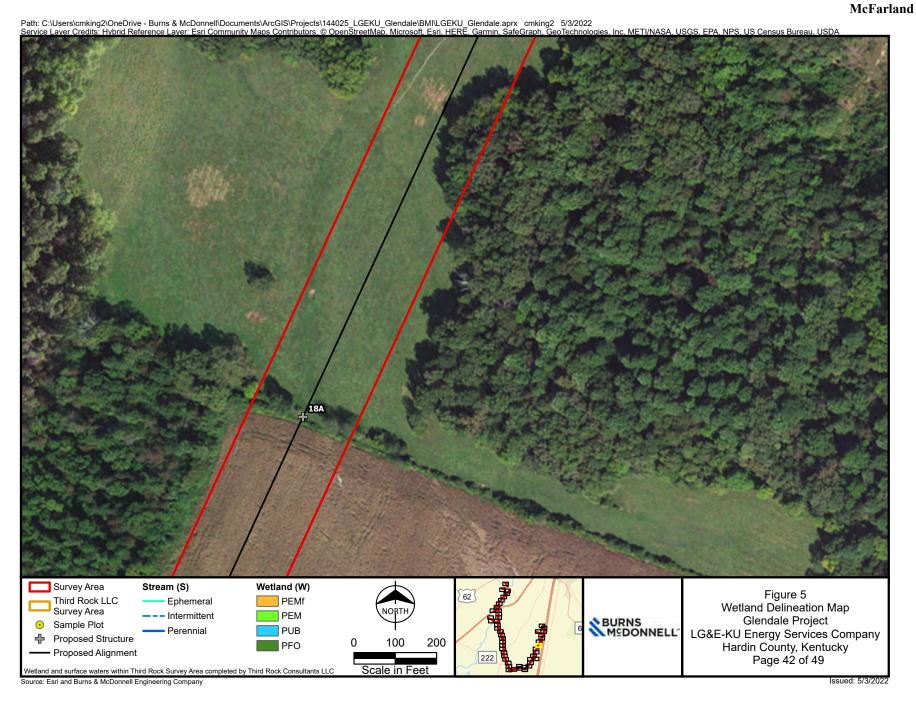


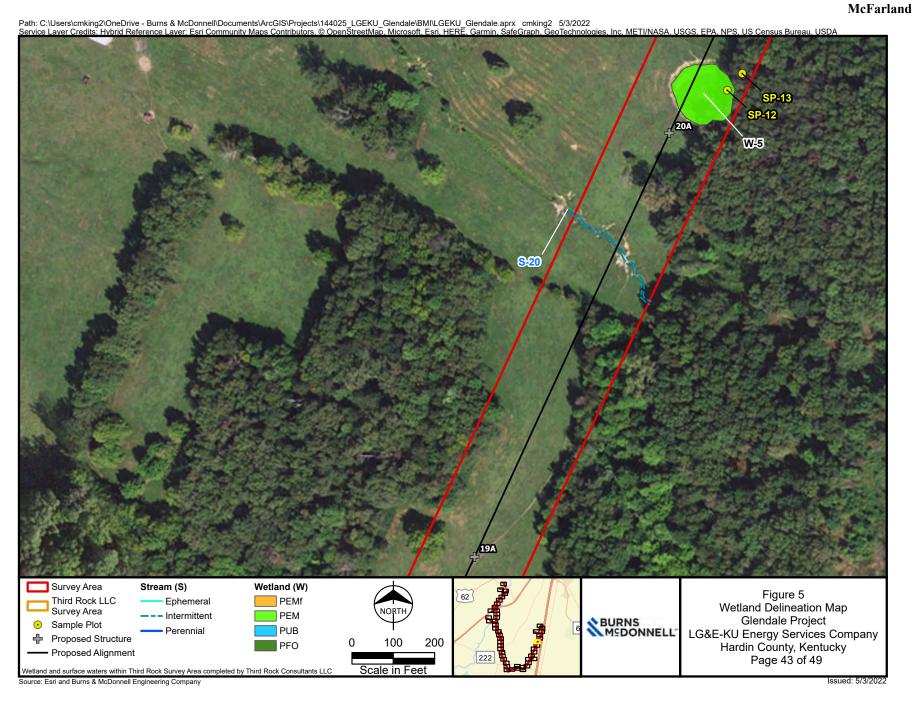


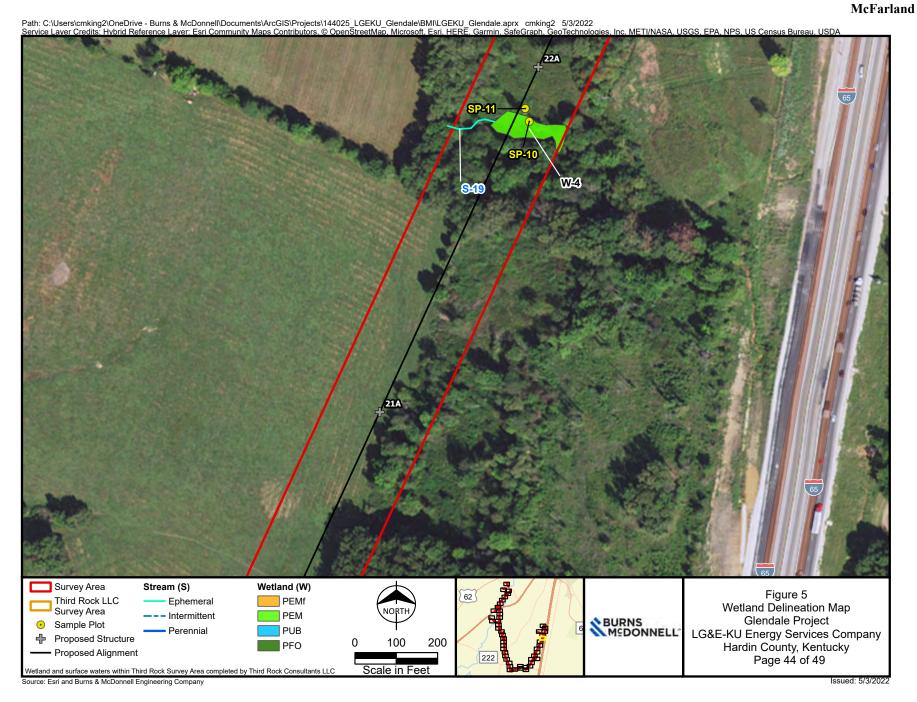


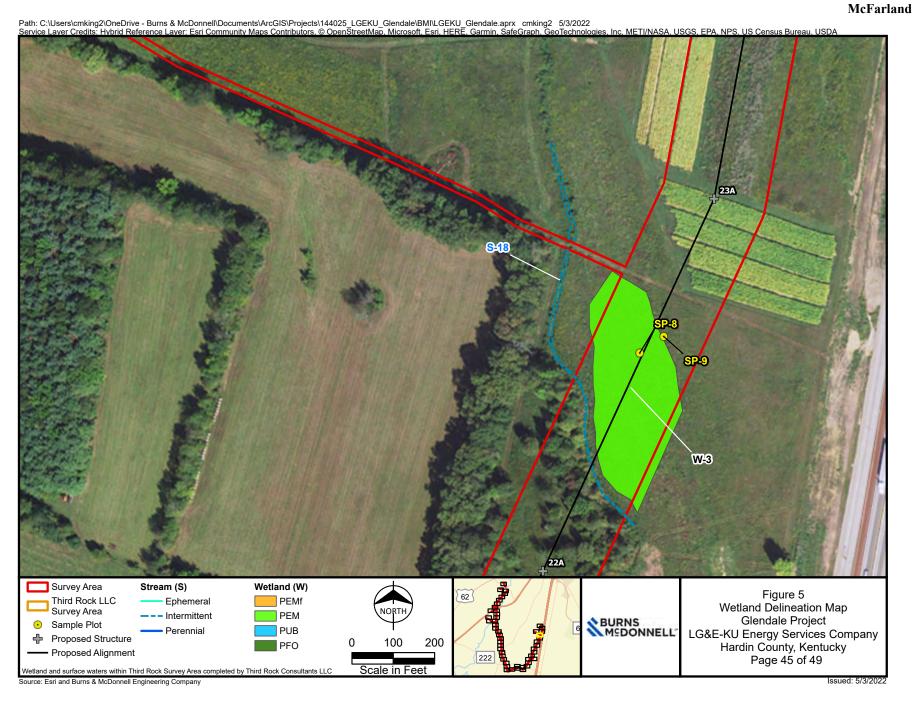


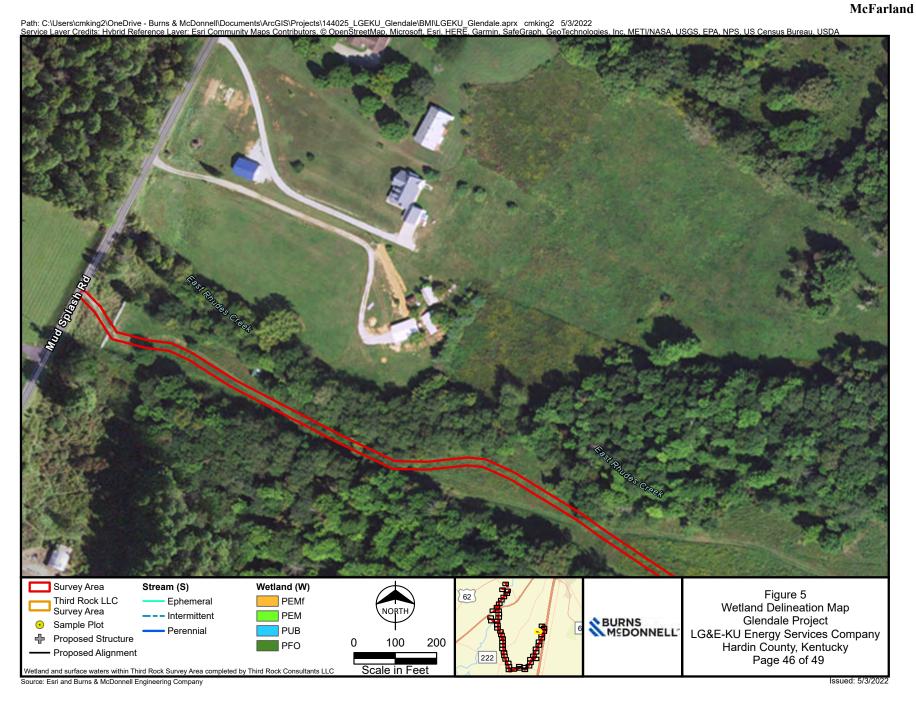


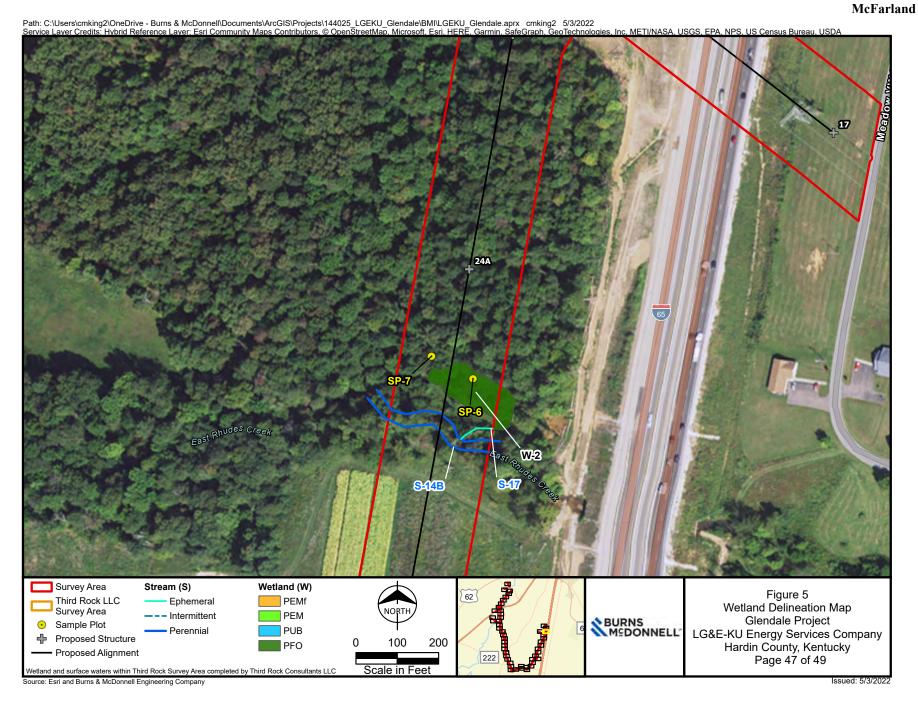


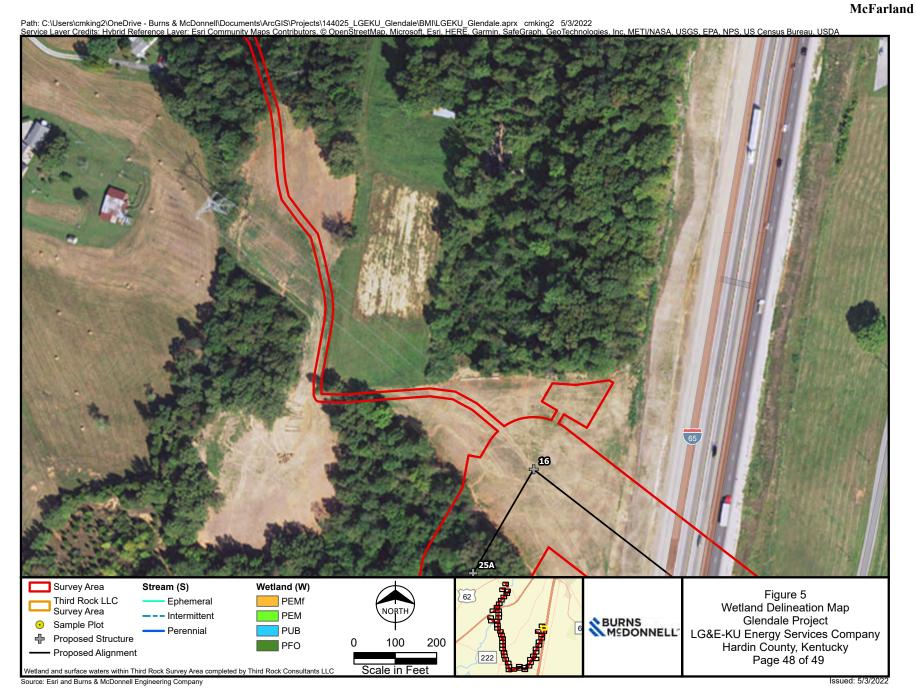


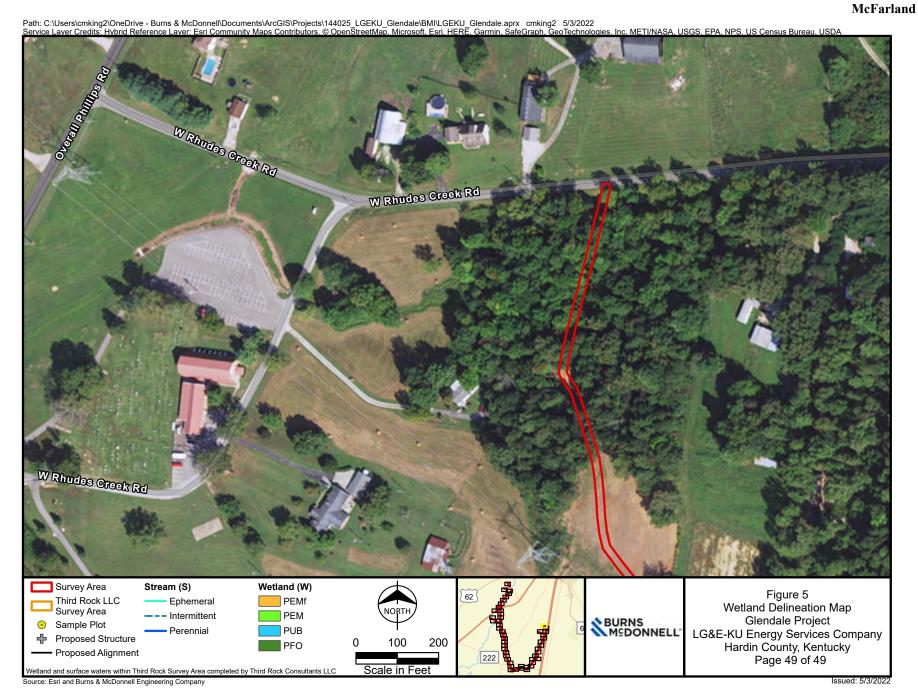












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Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: LGEKU Glend	ale		City/C	ounty: Glendale/Har	din	Sampling Date: 2022-03-08
Applicant/Owner: LG&E-KU						ky Sampling Point: SP-1
Investigator(s):Burns & McDo	onnell (SB & 0	CK)	Section	on, Township, Range: N	/A	
Landform (hillslope, terrace, etc						Slope (%): 10
	•			•		Datum: WGS 84
Soil Map Unit Name: Crider						
Are climatic / hydrologic conditi						
						present? Yes No _
Are Vegetation, Soil						
						s, important features, etc.
	ant? Yes		No 🗸			<u> </u>
Hydrophytic Vegetation Prese	ent?		No V	Is the Sampled Area	.,	
Hydric Soil Present? Wetland Hydrology Present?		· ·	No -	within a Wetland?	Yes	No <u>/</u>
Remarks:		_ <del>_</del>				
Sample Plot (SP)-1 is a test rainfall.  According to the Anteceder						
HYDROLOGY				· · · · · · · · · · · · · · · · · · ·		
Wetland Hydrology Indicato	ors:				Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum	of one is require	ed; check a	all that apply)		Surface Soil	Cracks (B6)
✓ Surface Water (A1)		Ti	rue Aquatic Plants (I	B14)	Sparsely Ve	getated Concave Surface (B8)
High Water Table (A2)		H	lydrogen Sulfide Odd	or (C1)	Drainage Pa	atterns (B10)
Saturation (A3)		0	xidized Rhizosphere	es on Living Roots (C3)	Moss Trim L	Lines (B16)
Water Marks (B1)		P	resence of Reduced	I Iron (C4)	Dry-Season	Water Table (C2)
Sediment Deposits (B2)		R	ecent Iron Reduction	n in Tilled Soils (C6)	Crayfish Bu	
Drift Deposits (B3)			hin Muck Surface (C	•	Saturation V	isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		0	ther (Explain in Ren	narks)		Stressed Plants (D1)
Iron Deposits (B5)						Position (D2)
Inundation Visible on Aer		)			Shallow Aqu	
Water-Stained Leaves (B	9)					aphic Relief (D4)
Aquatic Fauna (B13) Field Observations:					FAC-Neutra	I Test (D5)
Surface Water Present?	Vec V	о Г	Depth (inches): 6			
Water Table Present?			Depth (inches):			
Saturation Present?	Yes N	, <u> </u>	Depth (inches):	Wetland I	Hydrology Prese	nt? Yes No
(includes capillary fringe)						
Describe Recorded Data (stre	am gauge, mor	litoring wei	ii, aeriai pnotos, pre	vious inspections), if ava	allable:	
Remarks:						
One primary and one s	econdary ir	ndicator	confirmed wet	tland hydrology		
one primary and one s	recordary ii	idicator	committee we	dana nyarology.		

## Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 112 of 191 McFarland

00.6		Dominant		Dominance Test worksheet:
<u>Free Stratum</u> (Plot size: <u>30 ft r</u> ) I		Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
				matrice obe, friow, of frio.
				Total Number of Dominant Species Across All Strata: 1 (B)
				Species Across All Strata: [B]
l				Percent of Dominant Species
5		-		That Are OBL, FACW, or FAC: 0 (A/B)
)				Prevalence Index worksheet:
'		= Total Cove		Total % Cover of: Multiply by:
50% of total cover:				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 ft r )	20 /0 01	total cover.		FACW species x 2 =
·				FAC species x 3 =
2				FACU species x 4 =
				UPL species x 5 =
3				Column Totals: (A) (B)
l <u> </u>				( )
5				Prevalence Index = B/A =
S				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
3				2 - Dominance Test is >50%
)				3 - Prevalence Index is ≤3.0 <sup>1</sup>
50% of total cover:		= Total Cover:		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
Herb Stratum (Plot size: 5 ft r )	20 /0 01	total cover.		data in Remarks or on a separate sheet)
1. Poa pratensis	70	~	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2 Rosa multiflora	15		FACU	
Rumex crispus	2		FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
3				Carling/Ohmah Wasahanlanta asaladian dasa lasa
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
0				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	87%	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 43.5	20% of	total cover:	17.4	
Noody Vine Stratum (Plot size: 30 ft r )				<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
I				- 3
2				
3				
4				Undershirt
5				Hydrophytic Vegetation
		= Total Cove	er	Present? Yes No
50% of total cover:				
Remarks: (Include photo numbers here or on a separate s				1
No indicators of hydrophytic vegetation wer	e presen	it at the t	ime of t	ne site visit.

SOIL Sampling Point: SP-1

Profile Description: (Describe to the dept	n needed to document the i	ndicator or confirm	the absence of indi	cators.)
Depth <u>Matrix</u>	Redox Features			
(inches) Color (moist) %	Color (moist) %	Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0 - 20 7.5YR 5/6 100			Clay Loam	
<u> </u>				
<del></del>				
-				
-				_
-				
-				
<del></del>				_
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=I	Reduced Matrix, MS=Masked	Sand Grains.	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix.
Hydric Soil Indicators:	·			or Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Dark Surface (S7)		2 cm Mu	ck (A10) <b>(MLRA 147)</b>
Histic Epipedon (A2)	Polyvalue Below Surface	ce (S8) <b>(MLRA 147.</b>		airie Redox (A16)
Black Histic (A3)	Thin Dark Surface (S9)		• —	A 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (		•	t Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)		(MLR	A 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F	6)	Very Sha	allow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface	(F7)	Other (E	xplain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8	3)		
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masse	es (F12) <b>(LRR N,</b>		
MLRA 147, 148)	MLRA 136)			
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (			of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Se			ydrology must be present,
Stripped Matrix (S6)	Red Parent Material (F	21) <b>(MLRA 127, 147</b>	') unless dis	turbed or problematic.
Restrictive Layer (if observed):				
Туре:				
Depth (inches):			Hydric Soil Presei	nt? Yes No 🖍
Remarks:				
No indicators of hydric so	il were present at the	time of the site	visit.	

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: LGEKU Glend	ale	City/C	ounty: Glendale/Hardin	Sampling Date: 2022-03-09
Applicant/Owner: LG&E-KU		,		te: Kentucky Sampling Point: SP-2
Investigator(s):Burns & McDo	onnell (SB & CK)	Section		
Landform (hillslope, terrace, etc	c.): Flat	Local reli	ef (concave, convex, none): N	None Slope (%):_0
Subregion (LRR or MLRA): N			Long: -85.9028	
Soil Map Unit Name: Melvin		•		NWI classification: R4SBC
Are climatic / hydrologic conditi		for this time of year? Y		
				ımstances" present? Yes No
Are Vegetation, Soil				n any answers in Remarks.)
				transects, important features, etc.
			pinig point locations,	transcots, important reatures, etc.
Hydrophytic Vegetation Prese		No 🗸	Is the Sampled Area	
Hydric Soil Present?	Yes Yes ✓	No 🗸	within a Wetland?	Yes No <u>~</u>
Wetland Hydrology Present? Remarks:		No		
SP-2 is a test pit adjacent to conditions were observed a According to the Anteceder	t the time of the site	visit due to recent rain	nfall.	n a R4SBC NWI feature. Flooded t the time of the survey.
HYDROLOGY				
Wetland Hydrology Indicato	ors:		Seco	ndary Indicators (minimum of two required)
Primary Indicators (minimum		-		Surface Soil Cracks (B6)
Surface Water (A1)		_ True Aquatic Plants (I		Sparsely Vegetated Concave Surface (B8)
<ul><li>✓ High Water Table (A2)</li><li>✓ Saturation (A3)</li></ul>		_ Hydrogen Sulfide Odd		Orainage Patterns (B10)
Water Marks (B1)		Presence of Reduced	- · · ·	Moss Trim Lines (B16) Dry-Season Water Table (C2)
Sediment Deposits (B2)		Recent Iron Reduction		Crayfish Burrows (C8)
Drift Deposits (B3)		Thin Muck Surface (C	· · · · —	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	_	Other (Explain in Ren	narks) S	Stunted or Stressed Plants (D1)
Iron Deposits (B5)				Geomorphic Position (D2)
Inundation Visible on Aer				Shallow Aquitard (D3)
Water-Stained Leaves (B	9)		<del></del>	Microtopographic Relief (D4)
Aquatic Fauna (B13) Field Observations:				FAC-Neutral Test (D5)
Surface Water Present?	Ves No V	Depth (inches):		
Water Table Present?		Depth (inches): 1		
Saturation Present?	Yes No No		Wetland Hydrol	logy Present? Yes No
(includes capillary fringe)			vious inspections), if available:	
Describe Necorded Bata (stre	,am gaage, montoring	well, derial priotos, pre	vious inspections), il uvuliusie.	•
Remarks:				
Two primary indicators	s confirmed wetl	and hydrology. Th	ne water table was like	ly higher due
to flooded conditions	from recent rainf	all.		

# Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 115 of 191 McFarland

/EGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: SP-2
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft r ) 1.	% Cover	Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2.				
3.				Total Number of Dominant Species Across All Strata: 2 (B)
4				Openies Across All Ottata (b)
				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 50 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of:Multiply by:
50% of total cover:		= Total Cov		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 ft r )	20 /0 01	total cover.		FACW species x 2 =
				FAC species x 3 =
1				FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: (A) (B)
4				Column rotals (A) (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 <sup>1</sup>
		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 ft r )	4.0		E40	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. Panicum capillare	40		FAC	1 Toblematio Trydrophytio Vegetation (Explain)
2. Poa pratensis	30		FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
3. Rumex crispus	5		FAC	be present, unless disturbed or problematic.
4. Andropogon virginicus	1		FACU	Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				<b>Herb</b> – All herbaceous (non-woody) plants, regardless
	76%	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>38.0</u>		total cover:		
Woody Vine Stratum (Plot size: 30 ft r				<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
1				Tiolgric.
2				
3				
4				
5				Hydrophytic Vegetation
<u>.                                    </u>		= Total Cov		Present? Yes No
50% of total cover:				
Remarks: (Include photo numbers here or on a separate s				
No indicators of hydrophytic vegetation wer	e presen	nt at the	time of t	the site visit.

SOIL Sampling Point: SP-2

Profile Desc	ription: (Describe	to the de	oth needed to docur	nent the	indicator	or confirm	n the absence of indicators.)
Depth	Matrix		Redo	x Feature	es		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks
0 - 12	2.5Y 5/3	97	7.5YR 5/8	1	С	М	Clay Loam
0 - 12	10YR 2/2	2					Clay Loam
12 - 20	2.5Y 6/3	93	7.5YR 4/6	5	С	M	Clay Loam
12 - 20	10YR 2/1	2			· <u> </u>	• =====	Clay Loam
12 - 20	101K Z/1			-	_	<del></del>	Clay Loani
							·
-							
-							
-							
	-						
<del></del>							
<del> </del>							
		letion, RM	=Reduced Matrix, M	S=Maske	d Sand Gr	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil							Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol			Dark Surface		(0.0)		2 cm Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue Be				· · · · · · · · · · · · · · · · · · ·
·	stic (A3) en Sulfide (A4)		Thin Dark Su Loamy Gleye			147, 148)	(MLRA 147, 148) Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma		(Г2)		(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark		F6)		Very Shallow Dark Surface (TF12)
	d Below Dark Surfac	e (A11)	Depleted Da	•	•		Other (Explain in Remarks)
Thick Da	ark Surface (A12)	, ,	Redox Depre				
Sandy N	Mucky Mineral (S1) (	LRR N,	Iron-Mangan	ese Mass	ses (F12) (	LRR N,	
	A 147, 148)		MLRA 13	-			•
	Sleyed Matrix (S4)		Umbric Surfa				<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy F			Piedmont Flo				
	Matrix (S6)		Red Parent I	viateriai (i	-21) <b>(MLR</b>	A 127, 147	7) unless disturbed or problematic.
	Layer (if observed)	•					
Type:							
Depth (in	ches):						Hydric Soil Present? Yes No
Remarks:			••				
N	o indicators of	hydric s	oil were presen	t at the	time of	the site	e visit.

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: LGEKU Glend	ale		City/C	ounty: Glendale/Hard	din	Sampling Date: 2022-03-09
Applicant/Owner: LG&E-KU						ky Sampling Point: SP-3
Investigator(s):Burns & McDe	onnell (SB 8	k CK)	Section	on, Township, Range: N	/A	
Landform (hillslope, terrace, et						Slope (%): 1
						Datum: WGS 84
Soil Map Unit Name: Bedfor						
Are climatic / hydrologic condit						
						present? Yes No
Are Vegetation, Soil						
SUMMARY OF FINDING	GS – Attac	h site m	ap showing sam	pling point location	ons, transects	s, important features, etc.
Hydrophytic Vegetation Prese Hydric Soil Present? Wetland Hydrology Present?	Y	res vres vres vres vres vres vres vres v	No No No	Is the Sampled Area within a Wetland?	Yes _	<u></u>
Remarks: Wetland (W)-1 is a farme						
According to the Affece		ntation it	ooi (APT), the area	was experiencing t	wet conditions	at the time of the survey.
HYDROLOGY						
Wetland Hydrology Indicato					•	ators (minimum of two required)
Primary Indicators (minimum	of one is requ				Surface Soil	
Surface Water (A1)			True Aquatic Plants (I	•		getated Concave Surface (B8)
High Water Table (A2)			Hydrogen Sulfide Odd		-	atterns (B10)
Saturation (A3)				es on Living Roots (C3)	Moss Trim L	
Water Marks (B1)			Presence of Reduced		•	Water Table (C2)
Sediment Deposits (B2)			Recent Iron Reduction		Crayfish Bu	
Drift Deposits (B3)			Thin Muck Surface (C	·		/isible on Aerial Imagery (C9) Stressed Plants (D1)
Algal Mat or Crust (B4)			Other (Explain in Ren	narks)		
Iron Deposits (B5)	-i-l Imagon/(I	ודר			Geomorphic	` '
Inundation Visible on Aer		37)			Shallow Aqu	
Water-Stained Leaves (E	19)				Microtopogr	aphic Relief (D4)
Aquatic Fauna (B13) Field Observations:					FAC-Neulla	Test (D5)
Surface Water Present?	Yes V	No	Depth (inches): 4			
Water Table Present?			Depth (inches): 0			
Saturation Present?			Depth (inches): 0	Wetland H	Hydrology Prese	nt? Yes V No
(includes capillary fringe)  Describe Recorded Data (stre	am gauge ir	onitoring w	vell aerial photos pre	vious inspections) if ava	nilable.	
	J		,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Remarks:						
Three primary and three	ee second	ary indic	cators confirmed	d wetland hydrolog	gy. The water	r table
was likely higher due t	o flooded	conditio	ons from recent i	rain.		

## Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 118 of 191

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

50% of total cover: \_\_\_

Tree Stratum (Plot size: 30 ft r )

Sapling/Shrub Stratum (Plot size: 15 ft r

Herb Stratum (Plot size: 5 ft r

1. Portulaca umbraticola

2. Panicum capillare

4. Sonchus oleraceus

3. Poa pratensis

6.

**McFarland** Sampling Point: SP-3 Absolute Dominant Indicator Dominance Test worksheet: % Cover Species? Status **Number of Dominant Species** That Are OBL, FACW, or FAC: **Total Number of Dominant** 3 <u>(B)</u> Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 \_\_\_\_ (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species \_\_\_\_\_ x 1 = \_\_\_\_ FACW species \_\_\_\_\_ x 2 = \_\_\_\_ FAC species \_\_\_\_\_ x 3 = \_\_\_\_ FACU species \_\_\_\_\_ x 4 = \_\_\_\_ UPL species \_\_\_\_\_ x 5 = \_\_\_\_ Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B) Prevalence Index = B/A = \_\_\_\_ Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup> \_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) <sup>1</sup>Indicators of hydric soil and wetland hydrology must **FACU** be present, unless disturbed or problematic. **Definitions of Four Vegetation Strata:** Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or

7		height.
8		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
		<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
1		
3		Hydrophytic Vegetation
		Present? Yes V No No
50% of total cover:	= Total Cover 20% of total cover: heet.)  vegetation. Sample plot lo	ocation had standing
	= Total Cover 20% of total cover: heet.)  vegetation. Sample plot lo	ocation had standing

= Total Cover

\_ 20% of total cover:\_

= Total Cover

FAC

FAC

UPL

50% of total cover: \_\_\_\_\_ 20% of total cover:\_

10

SOIL Sampling Point: SP-3

	Matrix Color (moist)	%	Color (moist)	ox Feature %	s Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
nes) ) - <b>4</b>	2.5Y 5/2	100	Color (moist)		Туре	LUC	Clay Loam	Nemarks
- 16	2.5Y 5/2	98	10YR 6/6	2	С	M	Clay Loam	
10	2.51 3/2	_ 30	10111070		<u> </u>	IVI	Clay Loain	
				· <del></del>				
								-
-		_						
<u>-</u>		_						-
			<u> </u>					
		pletion, RI	M=Reduced Matrix, M	S=Maske	d Sand Gr	ains.		L=Pore Lining, M=Matrix.
	Indicators:							ators for Problematic Hydric Soils <sup>3</sup>
Histosol			Dark Surface	. ,	(00) (1			cm Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue B				148) (	Coast Prairie Redox (A16)
	stic (A3)		Thin Dark S			47, 148)	-	(MLRA 147, 148)
	n Sulfide (A4) d Layers (A5)		Loamy Gley  Depleted Ma		(Г2)			Piedmont Floodplain Soils (F19) (MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark		-6)		\	/ery Shallow Dark Surface (TF12)
	d Below Dark Surfa	ce (A11)	Depleted Da	•	•			Other (Explain in Remarks)
-	ark Surface (A12)	, ,	Redox Depr					,
	lucky Mineral (S1)	(LRR N,	Iron-Mangar	nese Mass	es (F12) <b>(</b>	LRR N,		
	A 147, 148)		MLRA 13	-			_	
	Sleyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
	ledox (S5)		Piedmont FI					etland hydrology must be present,
	Matrix (S6)  _ayer (if observed)	۸.	Red Parent	Material (F	·21) (MLR	A 127, 147	7) un	less disturbed or problematic.
	Layer (II observed	).						
ype:	ches).						Hydric Soil	Present? Yes No
	ches):						Hydric 30ii	riesenti ies NO
arks:	enleted Matrix	(F3) co	nfirmed hydric s	soil.				
D€	opiotoa itiatii		-					
D€	opiotoa iviatii)							
De								
D€	opioted Math							
D€	opiecea Maari							
De	spieced Madin							
D€	special mach							
D€	special mann							
D€	special mann							
D€	special mann							
De	special mann							
De	special mann							
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Project/Site: LGEKU Glend	ale		City/C	ounty: Glendale/H	ardin	Sampling Date: 2022-03-09			
Applicant/Owner: LG&E-KU						cky Sampling Point: SP-4			
Investigator(s):Burns & McDo	onnell (SB 8	k CK)							
Landform (hillslope, terrace, etc						Slope (%):_0			
Subregion (LRR or MLRA): N						Datum: WGS 84			
Soil Map Unit Name: Pembro									
Are climatic / hydrologic conditi									
						' present? Yes No			
Are Vegetation, Soil									
				•	d, explain any answ	vers in Remarks.)			
				.b 2 be		o, III.po. tailt 10010.00, 1111			
Hydrophytic Vegetation Prese	>11t:	/es	No 🗸	Is the Sampled Are	a				
Hydric Soil Present?		∕es — ∕es ✔	No 🗸	within a Wetland?	Yes _	No			
Wetland Hydrology Present? Remarks:		<u> </u>	No						
SP-4 is located adjacent to W-1. Flooded conditions were observed at the time of the site visit due to recent rainfall.  According to the Antecedent Precipitation Tool (APT), the area was experiencing wet conditions at the time of the survey.									
HYDROLOGY									
Wetland Hydrology Indicato	ors:				Secondary India	cators (minimum of two required)			
Primary Indicators (minimum	of one is requ	uired; check	all that apply)		Surface So	il Cracks (B6)			
Surface Water (A1)			True Aquatic Plants (I	B14)		egetated Concave Surface (B8)			
High Water Table (A2)			Hydrogen Sulfide Odd			Patterns (B10)			
Saturation (A3)			Oxidized Rhizosphere			Lines (B16)			
Water Marks (B1)			Presence of Reduced			n Water Table (C2)			
Sediment Deposits (B2)			Recent Iron Reduction			urrows (C8)			
Drift Deposits (B3)			Thin Muck Surface (C	=		Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)		— '	Other (Explain in Ren	narks)		Stressed Plants (D1)			
Iron Deposits (B5)	rial Imageny (F	77\				ic Position (D2)			
<ul><li>Inundation Visible on Aer</li><li>Water-Stained Leaves (B</li></ul>		3/)			Shallow Aquitard (D3) Microtopographic Relief (D4)				
Aquatic Fauna (B13)	19)				FAC-Neutra				
Field Observations:					1 AO-Neutr	ai rest (D0)			
Surface Water Present?	Yes	No 🗸	Depth (inches):						
Water Table Present?			Depth (inches): 6						
Saturation Present?			Depth (inches): 2	Wetlan	d Hydrology Prese	ent? Yes <u> </u>			
(includes capillary fringe)  Describe Recorded Data (stre									
Describe recorded bata (s.c.)	ani gaago,	lorinoring	ell, acitai priotos, p. s	vious inspectioner,	avallable.				
Remarks:									
Two primary indicator	s confirme	ed wetlar	nd hydrology. Th	ne water table w	as likelv highe	er due			
to flooded conditions				10					

# Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 121 of 191

**McFarland** Sampling Point: SP-4 VEGETATION (Four Strata) - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: 30 ft r ) % Cover Species? Status **Number of Dominant Species** That Are OBL, FACW, or FAC: Total Number of Dominant 1 \_\_\_\_ (B) Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: = Total Cover OBL species \_\_\_\_\_ x 1 = \_\_\_\_ \_\_ 20% of total cover: 50% of total cover: \_\_\_ FACW species \_\_\_\_\_ x 2 = \_\_\_\_ Sapling/Shrub Stratum (Plot size: 15 ft r FAC species \_\_\_\_\_ x 3 = \_\_\_\_ FACU species \_\_\_\_\_ x 4 = \_\_\_\_ UPL species \_\_\_\_\_ x 5 = \_\_\_\_ Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B) Prevalence Index = B/A = \_\_\_\_ Hydrophytic Vegetation Indicators: \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation \_\_\_ 2 - Dominance Test is >50% \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup> = Total Cover \_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting 50% of total cover: \_\_\_\_\_ 20% of total cover:\_ data in Remarks or on a separate sheet) Herb Stratum (Plot size: 5 ft r Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) UPL 1. Lamium amplexicaule 2. Lepidium campestre FACU 5 <sup>1</sup>Indicators of hydric soil and wetland hydrology must 3. Allium schoenoprasum 2 **FACU** be present, unless disturbed or problematic. **Definitions of Four Vegetation Strata:** Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 Herb - All herbaceous (non-woody) plants, regardless 87% \_ = Total Cover of size, and woody plants less than 3.28 ft tall. 50% of total cover: <u>43.5</u> 20% of total cover: <u>17.4</u> Woody vine - All woody vines greater than 3.28 ft in Woody Vine Stratum (Plot size: 30 ft r ) Hydrophytic Vegetation Yes \_\_\_\_\_ No \_\_\_ = Total Cover Present? 50% of total cover: \_\_\_\_\_ 20% of total cover:\_\_\_\_ Remarks: (Include photo numbers here or on a separate sheet.) No indicators of hydrophytic vegetation were present at the time of the site visit.

Profile Desc	ription: (Describe	to the dept	n needed to docur	nent the i	ndicator	or confirm	the absence	of indicators.)				
Depth	Matrix			x Features	3							
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks				
0 - 12	2.5Y 5/3	100					Clay Loam					
12 - 20	2.5Y 5/3	30					Clay Loam					
12 - 20	2.5Y 6/6	70					Clay Loam					
	-											
	-											
-												
1Type: C=C	oncentration, D=Dep	letion RM=	Reduced Matrix M	S=Masked	Sand Gr		<sup>2</sup> Location: PI					
Hydric Soil I		DICTION, INVI	TCCCCCC WIGHTA, IVI	3-Masked	Odrid Ore	ли ю. —		tors for Problematic Hydric Soils <sup>3</sup> :				
Histosol			Dark Surface	e (S7)				cm Muck (A10) <b>(MLRA 147)</b>				
	pipedon (A2)		Polyvalue Be	. ,	ce (S8) <b>(N</b>	ILRA 147,		oast Prairie Redox (A16)				
Black Hi	stic (A3)		Thin Dark Su					(MLRA 147, 148)				
	n Sulfide (A4)		Loamy Gleye	-	F2)		Pi	edmont Floodplain Soils (F19)				
	Layers (A5)		Depleted Ma				.,	(MLRA 136, 147)				
	ick (A10) <b>(LRR N)</b> d Below Dark Surfac	ο (Λ11)	Redox Dark	•	•			ery Shallow Dark Surface (TF12) ther (Explain in Remarks)				
	ark Surface (A12)	C (ATT)					0	ther (Explain in Nemarks)				
	lucky Mineral (S1) (	LRR N,		Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N,								
	\ 147, 148)			MLRA 136)								
	leyed Matrix (S4)			Umbric Surface (F13) (MLRA 136, 122)  *Indicators of hydrophytic vegetation an except support Floodhala Soile (F10) (MLRA 148)  **Wetland hydrology must be present.**								
Sandy R				Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic.								
	Matrix (S6)	_	Red Parent N	Material (F	21) <b>(MLR</b>	A 127, 147	() unl	ess disturbed or problematic.				
	_ayer (if observed)	:										
Type:	-h\.						Hardela Call	Present? Yes No				
Depth (inc	cnes):						Hyaric Soil	Present? Yes No				
Remarks:	a indicators of	م ما العام م	:	+ a+ +b a	time e ef	the eite	wieit					
INC	o indicators of	nyaric so	ıı were presen	t at the	time of	the site	VISIT.					

Project/Site: LGEKU Glend	ale	Citv/C	ounty: Glendale/Hardin	n Sam	npling Date: 2022-03-09		
Applicant/Owner: LG&E-KU					ampling Point: SP-5		
Investigator(s):Burns & McDo	onnell (SB & CK)	Section					
Landform (hillslope, terrace, etc					Slone (%): 2		
Subregion (LRR or MLRA): N	•						
Soil Map Unit Name: Lindsid				<del></del> '			
Are climatic / hydrologic conditi							
Are Vegetation, Soil	, or Hydrology	significantly disturb	bed? Are "Normal C	ircumstances" preser	nt? Yes No 🗸		
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? (If needed, exp	olain any answers in F	Remarks.)		
SUMMARY OF FINDING	GS – Attach sit	te map showing sam	pling point location	s, transects, im	portant features, etc.		
Hydrophytic Vegetation Prese	ant? Yes	✓ No					
Hydric Soil Present?	Yes		Is the Sampled Area	Vec	No. 🗸		
Wetland Hydrology Present?	Yes		within a Wetland?	Yes	No <u>·</u>		
Remarks:	<u> </u>	<del></del>					
SP-5 is a test pit adjacent to	n a nerennial strea	m Flooded conditions w	ere observed at the time	of the site visit due	to recent rainfall		
SF-3 is a test pit adjustit to	) a perennai sa sa	IIII. I 100ueu conamono	ele observed at the time	Of the Site visit and	to recent rannan.		
According to the Anteceder	nt Precipitation To	ol (APT), the area was ex	periencing wet condition	s at the time of the	survey.		
HYDROLOGY							
Wetland Hydrology Indicato	ors:		<u>S</u>	econdary Indicators (	minimum of two required)		
Primary Indicators (minimum	of one is required;	check all that apply)		_ Surface Soil Crack			
Surface Water (A1)		True Aquatic Plants (		Sparsely Vegetate	ed Concave Surface (B8)		
High Water Table (A2)		Hydrogen Sulfide Odd		_ Drainage Patterns			
Saturation (A3)		Oxidized Rhizosphere		_ Moss Trim Lines (	•		
Water Marks (B1)		Presence of Reduced		_ Dry-Season Water			
Sediment Deposits (B2)		Recent Iron Reductio	· · · · · · · · · · · · · · · · · · ·	_ Crayfish Burrows			
Drift Deposits (B3)		Thin Muck Surface (C	·		on Aerial Imagery (C9)		
Algal Mat or Crust (B4)		Other (Explain in Ren	narks)	_ Stunted or Stresse			
Iron Deposits (B5) Inundation Visible on Aer	ial Imagery (R7)		_	<ul><li>Geomorphic Posit</li><li>Shallow Aquitard (</li></ul>			
Water-Stained Leaves (B			_				
Aquatic Fauna (B13)	9)		-	Microtopographic Relief (D4) _✓ FAC-Neutral Test (D5)			
Field Observations:				_ 1710 1104141 1001	(50)		
Surface Water Present?	Yes No _	Depth (inches):					
Water Table Present?	Yes No						
Saturation Present?		Depth (inches):	Wetland Hyd	drology Present?	Yes No		
(includes capillary fringe)							
Describe Recorded Data (stre	am gauge, monitor	ring well, aerial photos, pre	vious inspections), if availa	ble:			
Remarks:							
One secondary indicat	or of wetland	hydrology was nres	ent at the time of the	e site visit			
one secondary malear	.or or wettaria	nyaralogy was pies	chi at the time of the	c site visit.			

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

30	Dominant Species?		Dominance Test worksheet:
30		Status	Number of Deminent Consis
			Number of Dominant Species
00		FACW	That Are OBL, FACW, or FAC: 2 (A)
20	<b>~</b>	FACU	Total Number of Deminent
10		FACU	Total Number of Dominant Species Across All Strata: 3 (B)
10		FACW	( ,
			Percent of Dominant Species That Are OBL_FACW_or_FAC: 66.7 (A/B)
			That Are OBL, FACW, or FAC: 66.7 (A/B)
	-		Prevalence Index worksheet:
70%	- Total Cov		Total % Cover of: Multiply by:
			OBL species x 1 =
20 70 01	total oover.		FACW species x 2 =
			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
			Column Totals: (A) (B)
			(A)
			Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			✓ 2 - Dominance Test is >50%
			3 - Prevalence Index is ≤3.0 <sup>1</sup>
	= Total Cov	er	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
20% of	total cover:		data in Remarks or on a separate sheet)
			1
50		FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5		FACU	1
2		FACU	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2			Definitions of Four Vegetation Strata:
			Definitions of Four Vegetation Strata.
			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
			more in diameter at breast height (DBH), regardless of height.
			noight.
			Sapling/Shrub – Woody plants, excluding vines, less
			than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
	· -		, and the second
59%	T-4-1 O		<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
			of size, and woody plants less than 3.20 it tall.
20 /0 01	total cover.		Woody vine – All woody vines greater than 3.28 ft in
			height.
-			
<del>-</del>			Hydrophytic
-			Vegetation Present? Yes   ✓ No
			Present? Yes V No No
	total cover:		
sheet.)			
•	ion.		
	70% 20% of 20% of 50 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	70% = Total Cov 20% of total cover:  = Total Cov 20% of total cover:  50	= Total Cover

Depth	Matrix			x Feature	s		the absence					
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remark	s		
0 - 2	10YR 3/2	100					Sandy Loam					
2 - 20	10YR 4/4	100					Sand					
-												
-												
_	-											
	-				-							
	-											
-												
-												
-	-											
ype: C=C	oncentration, D=De	pletion, RM	=Reduced Matrix, Ms	S=Masked	d Sand Gra	ins.	<sup>2</sup> Location: P	L=Pore Linir	ng, M=Matri	ix.		
dric Soil	Indicators:						Indica	ators for Pr	oblematic	Hydric Soils		
_ Histosol			Dark Surface					cm Muck (A				
	oipedon (A2)		Polyvalue Be				<b>148)</b> C	oast Prairie		6)		
	stic (A3) en Sulfide (A4)		Thin Dark Su			47, 148)	-	(MLRA 14)		lo (F10)		
- , ,	d Layers (A5)		Loamy Gleye Depleted Ma		(FZ)			iedmont Flo (MLRA 13		IS (F 19)		
	uck (A10) (LRR N)			, ,	<del>-</del> 6)		V	-		ce (TF12)		
	d Below Dark Surfa	ce (A11)		<ul><li>Redox Dark Surface (F6)</li><li>Depleted Dark Surface (F7)</li><li>Other (Explain in Remarks)</li></ul>								
='	ark Surface (A12)		Redox Depre									
	Mucky Mineral (S1)	(LRR N,	Iron-Mangan		es (F12) <b>(I</b>	.RR N,						
	<b>A 147, 148)</b> Gleyed Matrix (S4)		MLRA 13 Umbric Surfa	-	(MI D A 13	s 122\	<sup>3</sup> Ind	icators of hy	drophytic v	egetation an		
	Redox (S5)		Piedmont Flo					tland hydrol				
	Matrix (S6)		Red Parent N					less disturbe				
estrictive I	Layer (if observed	):										
Туре:												
							Hydric Soil	Present?	Yes	No <u>~</u>		
• -	ches):						1					
Depth (inc	ches):											
Depth (incemarks:			oil were presen	t at the	time of	the site	visit.					
Depth (incomparks:			oil were presen	t at the	time of	the site	visit.					
Depth (incomparks:			oil were presen	t at the	time of	the site	visit.					
Depth (incemarks:			oil were presen	t at the	time of	the site	visit.					
Depth (incemarks:			oil were presen	t at the	time of	the site	visit.					
Depth (incomparks:			oil were presen	t at the	time of	the site	visit.					
Depth (incomparks:			oil were presen	t at the	time of	the site	visit.					
Depth (inc			oil were presen	t at the	time of	the site	visit.					
Depth (incomparks:			oil were presen	t at the	time of	the site	visit.					
Depth (incomparks:			oil were presen	t at the	time of	the site	visit.					
Depth (inc			oil were presen	t at the	time of	the site	visit.					
Depth (incomparks:			oil were presen	t at the	time of	the site	visit.					
Depth (incomparks:			oil were presen	t at the	time of	the site	visit.					
Depth (incemarks:			oil were presen	t at the	time of	the site	visit.					
Depth (incemarks:			oil were presen	t at the	time of	the site	visit.					
Depth (incemarks:			oil were presen	t at the	time of	the site	visit.					
Depth (incemarks:			oil were presen	t at the	time of	the site	visit.					
Depth (incemarks:			oil were presen	t at the	time of	the site	visit.					
Depth (incomparks:			oil were presen	t at the	time of	the site	visit.					

Project/Site: LGEKU Glendale	City/County: Glendale/Hardin Sampling Date: 2022-03-09
Applicant/Owner: LG&E-KU	State: Kentucky Sampling Point: SP-6
Investigator(s):Burns & McDonnell (SB & CK)	
• • • •	Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): N 122 Lat: 37.62803	
	-
Soil Map Unit Name: Melvin silt loam	NWI classification: PFO1A
Are climatic / hydrologic conditions on the site typical for this time of	
Are Vegetation, Soil, or Hydrology significal	ntly 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	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes 🔽 No	
Hydric Soil Present? Yes V No	Is the Sampled Area
Wetland Hydrology Present? Yes ✓ No	within a Wetland? Yes No
Remarks:	
	d conditions were observed at the time of the site visit due to recent rainfall.
Wetland (W)-2 is a palustrine forested (1.1.0) wetland. Floode	d Conditions were observed at the time of the site visit due to recent runnam
According to the Antecedent Precipitation Tool (APT), the are	a was experiencing wet conditions at the time of the survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	ly) Surface Soil Cracks (B6)
Surface Water (A1) True Aquati	
✓ High Water Table (A2)  — Hydrogen S	
	izospheres on Living Roots (C3) Moss Trim Lines (B16)
	Reduced Iron (C4) Dry-Season Water Table (C2)
	Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
✓ Drift Deposits (B3) Thin Muck S	
Algal Mat or Crust (B4) Other (Expla	
Iron Deposits (B5)	✓ Geomorphic Position (D2)
<ul><li> Inundation Visible on Aerial Imagery (B7)</li><li>✓ Water-Stained Leaves (B9)</li></ul>	Shallow Aquitard (D3)
Aquatic Fauna (B13)	Microtopographic Relief (D4)  ✓ FAC-Neutral Test (D5)
Field Observations:	PAC-Neutral Test (D5)
	nes):
Water Table Present? Yes No Depth (inch	
Saturation Present? Yes No Depth (incl	
(includes capillary fringe)	wetiand flydrology Fresent: TesNo
Describe Recorded Data (stream gauge, monitoring well, aerial ph	notos, previous inspections), if available:
Remarks:	
Four primary indicators and three secondary indicators	cators confirmed watland hydrology
Tour primary indicators and three secondary indi-	cators commined wettand flydrology.

# Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 127 of 191 McFarland

Sampling Point: SP-6 VEGETATION (Four Strata) - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: 30 ft r ) % Cover Species? Status **Number of Dominant Species** 1. Fraxinus pennsylvanica **FACW** ~ That Are OBL, FACW, or FAC: 15 ~ 2. Ulmus americana **FACW** Total Number of Dominant \_\_\_\_ 10 **FACW** 3. Betula nigra 5 \_\_\_\_ (B) Species Across All Strata: Percent of Dominant Species 100 That Are OBL, FACW, or FAC: (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: = Total Cover OBL species \_\_\_\_\_ x 1 = \_\_\_\_ 20% of total cover: 8.0 50% of total cover: 20.0 FACW species \_\_\_\_\_ x 2 = \_\_\_\_ Sapling/Shrub Stratum (Plot size: 15 ft r 1. Ulmus americana FAC species \_\_\_\_\_ x 3 = \_\_\_\_ **FACW** 2. Sambucus nigra FAC FACU species \_\_\_\_\_ x 4 = \_\_\_\_ UPL species \_\_\_\_\_ x 5 = \_\_\_\_ 3. Rosa multiflora **FACU** Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B) Prevalence Index = B/A = \_\_\_\_ Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup> 22% = Total Cover 4 - Morphological Adaptations (Provide supporting 50% of total cover: 11.0 20% of total cover: 4.4 data in Remarks or on a separate sheet) Herb Stratum (Plot size: 5 ft r Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. **Definitions of Four Vegetation Strata:** Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. = Total Cover \_\_ 20% of total cover:\_ 50% of total cover: \_\_\_\_ Woody vine - All woody vines greater than 3.28 ft in Woody Vine Stratum (Plot size: 30 ft r ) Hydrophytic Vegetation Yes \_\_\_\_ No \_\_\_\_ = Total Cover Present? 50% of total cover: \_\_\_\_\_ 20% of total cover: Remarks: (Include photo numbers here or on a separate sheet.) The Dominance Test confirmed hydrophytic vegetation.

Profile Desc	ription: (Describe	to the de	pth needed to docur	nent the	indicator	or confirn	n the absence of indicators.)
Depth	Matrix			x Feature			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks
0 - 4	10YR 3/2	75	5YR 4/6	5	С	M	Clay Loam
0 - 4	10YR 6/8	20					Sand
4 - 20	10YR 6/8	70	5YR 4/6	10	С	М	Sandy Clay Loa
4 - 20	10YR 3/2	20	<del></del>			·	Clay Loam
4-20	1011 3/2						Clay Loani
						<del></del>	
-							
-						·	
					-		
-				-		<del></del>	<u> </u>
1		<del></del>					2
		oletion, RM	1=Reduced Matrix, MS	S=Maske	d Sand Gr	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil			5 10 6	(07)			Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol			Dark Surface		(00) (	#I DA 447	2 cm Muck (A10) (MLRA 147)
Histic Ep	oipedon (A2)		Polyvalue Be				
	en Sulfide (A4)		Thin Dark Su Loamy Gleye			147, 148)	(MLRA 147, 148) Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma		(1 2)		(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark		F6)		Very Shallow Dark Surface (TF12)
	d Below Dark Surfac	ce (A11)	Depleted Da	-			Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depre	essions (F	<del>-</del> 8)		
Sandy M	lucky Mineral (S1)	LRR N,	Iron-Mangan	ese Mass	ses (F12) (	LRR N,	
	A 147, 148)		MLRA 13	-			
	Gleyed Matrix (S4)		Umbric Surfa				<sup>3</sup> Indicators of hydrophytic vegetation and
. —	Redox (S5)		Piedmont Flo				
	Matrix (S6)		Red Parent N	viateriai (i	F21) (MLR	A 127, 14	7) unless disturbed or problematic.
	Layer (if observed)	•					
Type:			<del></del>				
Depth (in	ches):						Hydric Soil Present? Yes V No
Remarks:		(50)		,			
Re	edox Dark Surf	ace (F6)	) confirmed hyd	ric soil.			

Project/Site: LGEKU Glend	dale			Citv/C	County: Glendale/F	Hardin	_ Sampling Date:	2022-03-09		
Applicant/Owner: LG&E-KU							ky Sampling Po			
Investigator(s):Burns & McD	onnell (SB 8	CK)		Secti	on, Township, Range			-		
Landform (hillslope, terrace, e					ief (concave, convex,		Slo	ope (%): 2		
Subregion (LRR or MLRA): N					Long: _		Datu			
Soil Map Unit Name: Melvin						NWI classifi				
Are climatic / hydrologic condi		e tynica	I for this ti	ime of year?						
Are Vegetation, Soil								No. V		
								NO		
Are Vegetation, Soil _						ed, explain any answe		footures etc		
SUMMARY OF FINDIN	- Allac	II SILE	map si	lowing San		ations, transect	s, important i	eatures, etc.		
Hydrophytic Vegetation Present?  Yes  No  Is the Sampled Area						ea				
Hydric Soil Present?		es	_ No		within a Wetland?		No 🗸	_		
Wetland Hydrology Present? Remarks:	Y	es	No	<u> </u>						
SP-7 is located adjacent to W-2. Flooded conditions were observed at the time of the site visit due to recent rainfall.  According to the Antecedent Precipitation Tool (APT), the area was experiencing wet conditions at the time of the survey.										
HYDROLOGY										
Wetland Hydrology Indicat						•	ators (minimum o	<u>if two required)</u>		
Primary Indicators (minimum	of one is requ				(D4.4)		l Cracks (B6)	Of (DO)		
Surface Water (A1) High Water Table (A2)				lquatic Plants ( gen Sulfide Od			egetated Concave atterns (B10)	, Ѕипасе (В8)		
Saturation (A3)					res on Living Roots (C	-				
Water Marks (B1)				nce of Reduce	- ·	•	Water Table (C2	2)		
Sediment Deposits (B2)					on in Tilled Soils (C6)	•	•	•		
Drift Deposits (B3)		_	Thin M	luck Surface (0	C7)	Saturation \	/isible on Aerial Ir	nagery (C9)		
Algal Mat or Crust (B4)		_	Other	(Explain in Rei	marks)		Stressed Plants (D	<b>)</b> 1)		
Iron Deposits (B5)							Position (D2)			
Inundation Visible on Ae		57)				Shallow Aqu				
Water-Stained Leaves (	39)					Microtopogr FAC-Neutra	raphic Relief (D4)			
Aquatic Fauna (B13) Field Observations:						FAC-Neutra	Test (D5)			
Surface Water Present?	Yes	No 🗸	, Depth	(inches):						
Water Table Present?	Yes	No V		(inches):						
Saturation Present?				(inches):	Wetlan	nd Hydrology Prese	nt? Yes	No		
(includes capillary fringe) Describe Recorded Data (str	eam gauge, m	onitorin	g well, ae	rial photos, pre	 evious inspections), if	available:				
Remarks:										
One secondary indica	tor of wetla	and hy	ydrolog	y was pres	sent at the time	of the site visit.				

## Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 130 of 191 **McFarland**

Sampling Point: SP-7 VEGETATION (Four Strata) - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: 30 ft r ) % Cover Species? Status **Number of Dominant Species** 1. Prunus serotina FACU ~ That Are OBL, FACW, or FAC: 10 \_\_\_\_ **FACW** 2 Acer saccharinum Total Number of Dominant FACU 3. Celtis occidentalis 3 <u>(B)</u> Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: = Total Cover OBL species \_\_\_\_\_ x 1 = \_\_\_\_ \_ 20% of total cover: 11.0 50% of total cover: 27.5 FACW species \_\_\_\_\_ x 2 = \_\_\_\_ Sapling/Shrub Stratum (Plot size: 15 ft r FAC species \_\_\_\_\_ x 3 = \_\_\_\_ 1. Celtis occidentalis FACU 2. Fraxinus pennsylvanica **FACW** FACU species \_\_\_\_\_ x 4 = \_\_\_\_ UPL species \_\_\_\_\_ x 5 = \_\_\_\_ Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B) Prevalence Index = B/A = \_\_\_\_ Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation \_\_\_ 2 - Dominance Test is >50% \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup> 12% \_\_\_ = Total Cover 4 - Morphological Adaptations (Provide supporting 50% of total cover: 6.0 20% of total cover: 2.4 data in Remarks or on a separate sheet) Herb Stratum (Plot size: 5 ft r Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) UPL 1. Lonicera maackii <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. **Definitions of Four Vegetation Strata:** Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 Herb - All herbaceous (non-woody) plants, regardless 5% \_ = Total Cover of size, and woody plants less than 3.28 ft tall. 50% of total cover: 2.5 \_\_\_ 20% of total cover: 1.0 Woody vine - All woody vines greater than 3.28 ft in Woody Vine Stratum (Plot size: 30 ft r ) Hydrophytic Vegetation Yes \_\_\_\_\_ No \_\_\_ = Total Cover Present? 50% of total cover: \_\_\_\_\_ 20% of total cover:\_\_\_\_ Remarks: (Include photo numbers here or on a separate sheet.) No indicators of hydrophytic vegetation were present at the time of the site visit.

Profile Desc	ription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence	of indicators.)				
Depth	Matrix		Redo	x Features	3							
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks				
0 - 2	10YR 3/2	80					Silty Clay Loan					
0 - 2	5YR 5/8	20					Silty Clay Loan					
2 - 20	7.5YR 5/8	100			-		Sandy Clay Loa					
-												
-					-							
	oncentration, D=Dep	oletion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.				
Hydric Soil	ndicators:							ators for Problematic Hydric Soils <sup>3</sup> :				
Histosol	•		Dark Surface	. ,				cm Muck (A10) (MLRA 147)				
	pipedon (A2)		Polyvalue Be				<b>148)</b> C	coast Prairie Redox (A16)				
Black Hi	` ,		Thin Dark Su			47, 148)	5	(MLRA 147, 148)				
	n Sulfide (A4) I Layers (A5)		Loamy Gleye Depleted Ma	-	F2)		<u> </u>	riedmont Floodplain Soils (F19) (MLRA 136, 147)				
	ick (A10) <b>(LRR N)</b>		Redox Dark		6)		V	ery Shallow Dark Surface (TF12)				
	Below Dark Surfac	e (A11)	Depleted Da	•	•			Other (Explain in Remarks)				
	ark Surface (A12)	,	Redox Depre				<u> </u>					
Sandy M	lucky Mineral (S1) (	LRR N,	Iron-Mangan	ese Masse	es (F12) <b>(</b>	LRR N,						
MLRA	147, 148)		MLRA 13	MLRA 136)								
	leyed Matrix (S4)			<ul> <li>Umbric Surface (F13) (MLRA 136, 122)</li> <li>Piedmont Floodplain Soils (F19) (MLRA 148)</li> <li>wetland hydrology must be present,</li> </ul>								
Sandy R								tland hydrology must be present,				
	Matrix (S6)		Red Parent I	Material (F	21) <b>(MLR</b>	A 127, 147	7) un	less disturbed or problematic.				
	_ayer (if observed)	:										
Type:								v				
Depth (inc	ches):						Hydric Soil	Present? Yes No				
Remarks:												
N	o indicators of	hydric so	ıl were presen	t at the	time of	the site	visit.					

Project/Site: LGEKU Glenda	ale		City/C	County: Glendale/Ha	ardin	Sampling Date: 2022-03-10
Applicant/Owner: LG&E-KU						cky Sampling Point: SP-8
Investigator(s):Burns & McDo	nnell (SB & Ck	()	Section			<u> </u>
Landform (hillslope, terrace, etc						Slone (%)· 5
Subregion (LRR or MLRA): N				•		Datum: WGS 84
Soil Map Unit Name: Melvin		_ Lat			NWI classif	
Are climatic / hydrologic condition		.:	"···· f · · · · · · · ·			
						present? Yes No
Are Vegetation, Soil	, or Hydrolog	y na	turally problema	atic? (If needed	d, explain any answ	ers in Remarks.)
SUMMARY OF FINDING	SS – Attach s	ite map s	howing san	npling point loca	tions, transect	ts, important features, etc.
Hydrophytic Vegetation Prese	nt? Yes	✓ No	)	_		
Hydric Soil Present?	Yes	✓ No		Is the Sampled Are within a Wetland?	a Yes (	<b>√</b> No
Wetland Hydrology Present?	Yes	V No		within a wetiand?		<del></del>
Remarks:				l		
Wetland (W)-3 is a palustrin	e emergent (PEI	м) wetland.	Flooded cond	itions were observed	I at the time of the	e site visit due to recent rainfall.
·	-					
According to the Anteceden	t Precipitation T	ool (APT), t	he area was e	xperiencing wet cond	ditions at the time	of the survey.
HYDROLOGY						_
Wetland Hydrology Indicato	***				Socondary India	oators (minimum of two required)
Primary Indicators (minimum of		check all th	at apply)		Surface So	cators (minimum of two required)
Surface Water (A1)	on one is required		Aquatic Plants (	(R14)		egetated Concave Surface (B8)
High Water Table (A2)			ngen Sulfide Od	•		Patterns (B10)
Saturation (A3)				es on Living Roots (C		
Water Marks (B1)			ence of Reduced			n Water Table (C2)
Sediment Deposits (B2)				on in Tilled Soils (C6)		urrows (C8)
Drift Deposits (B3)		·	Muck Surface (0		<del></del> •	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Other	(Explain in Rer	marks)	Stunted or	Stressed Plants (D1)
Iron Deposits (B5)					Geomorphi	ic Position (D2)
Inundation Visible on Aeri					Shallow Aq	juitard (D3)
Water-Stained Leaves (B	9)				Microtopog	raphic Relief (D4)
Aquatic Fauna (B13)					FAC-Neutra	al Test (D5)
Field Observations:						
Surface Water Present?	Yes No					
Water Table Present?	Yes No					
Saturation Present? (includes capillary fringe)	Yes V No	Dept	h (inches):	Wetlan	d Hydrology Prese	ent? Yes V No
Describe Recorded Data (stre	am gauge, monit	oring well, a	erial photos, pre	evious inspections), if a	available:	
Remarks:						
Two primary indicators	and three s	econdary	indicators	confirmed wetlar	nd hydrology.	

# Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 133 of 191 McFarland

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

Sampling Point: SP-8

- 20 ft r		Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size: 30 ft r )	% Cover			Number of Dominant Species That Are OBL, FACW, or FAC: 2	(A)
1					(^)
3				Total Number of Dominant Species Across All Strata:  2 (	(B)
4       5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (	(A/B)
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
500/ 61 1 1		= Total Cov		OBL species x 1 =	
50% of total cover:	20% of	total cover		FACW species x 2 =	
Sapling/Shrub Stratum (Plot size: 15 ft r )				FAC species x 3 =	
1				FACU species x 4 =	
2				UPL species x 5 =	
3					(D)
4				Column Totals: (A)	(B)
5			·	Prevalence Index = B/A =	
6				Hydrophytic Vegetation Indicators:	
7		-	· ——	1 - Rapid Test for Hydrophytic Vegetation	
8				✓ 2 - Dominance Test is >50%	
9				3 - Prevalence Index is ≤3.0 <sup>1</sup>	
500/ CL L		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide suppo	orting
50% of total cover:	20% of	total cover		data in Remarks or on a separate sheet)	
Herb Stratum (Plot size: 5 ft r  1 Dichanthelium clandestinum	55	~	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	)
**	30		FACW		,
2. Juncus effusus	10			<sup>1</sup> Indicators of hydric soil and wetland hydrology mu	ust
3. Carex sp.			UNK	be present, unless disturbed or problematic.	
4. Rumex crispus	5		FAC	Definitions of Four Vegetation Strata:	
5				Tree Mondy plants evaluding vines 2 in /7.6 or	m) or
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles	
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	222
9				than 3 in. DBH and greater than or equal to 3.28 ft	
10				m) tall.	•
11				Herb – All herbaceous (non-woody) plants, regard	less
	100%	= Total Cov	er er	of size, and woody plants less than 3.28 ft tall.	.000
$\frac{50\% \text{ of total cover: } \frac{50.0}{30 \text{ ft r}}}{\text{Moody Vine Stratum}} \text{ (Plot size: } \frac{30 \text{ ft r}}{\text{otherwise}})$	20% of	total cover	20.0	Woody vine – All woody vines greater than 3.28 ft height.	t in
1				<u> </u>	
2					
3					
4					
5				Hydrophytic Vegetation	
		= Total Cov	er	Present? Yes No	
50% of total cover:					
Remarks: (Include photo numbers here or on a separate s	heet.)				
The Dominance Test confirmed hydrophytic	,	on. Care	ex sp. co	ould not be identified to	
the species level during the site investigatio	•		-		
to the presence of hydric soil, wetland hydro	ology, an	d other	hydroph	ytic vegetation, it is	
assumed to be FACW. The wetland indicator	r status c	of this sp	ecies d	oes not change outcome	
for hydrophytic vegetation.					

Profile Desc	ription: (Describe	to the de	oth needed to docur	nent the	indicator	or confirn	the absence of indicators.)	
Depth	Matrix		Redo	x Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
0 - 3	2.5Y 4/2	100				<del></del>	Silty Clay Loan	
3 - 10	2.5Y 5/2	88	5YR 4/6	2	С	M	Sandy Clay Loa	
3 - 10	10YR 7/8	10					Sandy Clay Loa	
10 - 20	2.5Y 6/4	70	5YR 5/6	30	С	М	Sandy Clay	
						·		
						· ——		
-								
-								
-								
1Type: C=C	ncentration D=De	nletion RM	=Reduced Matrix, M	S=Macko	d Sand Gr	aine	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
Hydric Soil		pietion, ixiv	I-Reduced Matrix, Mi	3-Maske	u Sanu Gi	airis.	Indicators for Problematic Hy	dric Soils³:
Histosol			Dark Surface	(S7)			2 cm Muck (A10) <b>(MLRA 1</b> 4	
	oipedon (A2)		Polyvalue Be		ace (S8) <b>(N</b>	/ILRA 147,		,
	stic (A3)		Thin Dark Su				(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		(F2)		Piedmont Floodplain Soils	(F19)
	d Layers (A5)		<u>✓</u> Depleted Ma				(MLRA 136, 147)	
	ick (A10) <b>(LRR N)</b> d Below Dark Surfac	oo (A11)	Redox Dark Depleted Da		,		<ul><li>Very Shallow Dark Surface</li><li>Other (Explain in Remarks)</li></ul>	
	ark Surface (A12)	Se (ATT)	Redox Depre				Other (Explain in Remarks)	1
· —	lucky Mineral (S1)	LRR N.	Iron-Mangan		•	LRR N.		
	A 147, 148)		MLRA 13		, , ,			
	Gleyed Matrix (S4)		Umbric Surfa				<sup>3</sup> Indicators of hydrophytic veg	
	Redox (S5)		Piedmont Flo					
	Matrix (S6)		Red Parent I	Material (I	F21) <b>(MLR</b>	A 127, 147	unless disturbed or problema	atic.
	Layer (if observed)	):						
Type:								
Depth (inc	cnes):						Hydric Soil Present? Yes	No
Remarks:	anlatad Matrix	(F2) as	efirmed by drie	انم				
D.	epieted Matrix	(F3) COI	nfirmed hydric s	OII.				

Project/Site: LGEKU Glendale	City/County: Glendale/Hardin Sampling Date: 2022-03-10
Applicant/Owner: LG&E-KU	State: Kentucky Sampling Point: SP-9
Investigator(s):Burns & McDonnell (SB & CK)	
	Local relief (concave, convex, none): Convex Slope (%): 3
· · · · · · · · · · · · · · · · · · ·	4211 Long: -85.8640463 Datum: WGS 84
	NWI classification: No
Are climatic / hydrologic conditions on the site typical for this time	
Are Vegetation, Soil, or Hydrology signific	cantly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrology natura	ally problematic? (If needed, explain any answers in Remarks.)
	wing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes <u>V</u> No _	Is the Sampled Area
Hydric Soil Present? Yes No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No e	<u> </u>
	were observed at the time of the site visit due to recent rainfall.  (i), the area was experiencing wet conditions at the time of the survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that a	
	Latic Plants (B14) Sparsely Vegetated Concave Surface (B8)
	n Sulfide Odor (C1) Drainage Patterns (B10)
	Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
	e of Reduced Iron (C4) Dry-Season Water Table (C2)
<del></del>	con Reduction in Tilled Soils (C6) Crayfish Burrows (C8) ck Surface (C7) Saturation Visible on Aerial Imagery (C9)
	xplain in Remarks) Saturation visible on Aerial imagery (C9)
Algal Mat of Crust (B4) Office (EX	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aguitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (in	
Water Table Present? Yes No Depth (in	nches):
Saturation Present? Yes No Depth (ir	nches): Wetland Hydrology Present? Yes No_ V
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspections), if available:
Remarks:	
No indicators of wetland hydrology were present	nt at the time of the site visit.

# Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 136 of 191 McFarland

/EGETATION (Four Strata) – Use scientific n	ames or	piants.		Sampling Point: SP-9
20.4		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft r )		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: 1 (A)
2				Total Number of Dominant
3				Species Across All Strata: 1 (B)
4				Dercent of Deminent Species
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
6				
7				Prevalence Index worksheet:
		= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover:				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 ft r )				FACW species x 2 =
1				FAC species x 3 =
2				FACU species x 4 =
				UPL species x 5 =
3				Column Totals: (A) (B)
4				(1)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0¹
	:	= Total Cov	er	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover:	20% of	total cover:		
Herb Stratum (Plot size: 5 ft r )				data in Remarks or on a separate sheet)
1. Dichanthelium clandestinum	60		FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<sub>2.</sub> Poa pratensis	15		FACU	
3. Rosa multiflora	10		FACU	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4 Allium schoenoprasum	5		FACU	
5. Solidago canadensis	2	-	FACU	Definitions of Four Vegetation Strata:
···				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
40.0		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>46.0</u>	20% of	total cover:	18.4	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft r )				height.
1				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cov		Present? Yes V No No
50% of total cover:				
Remarks: (Include photo numbers here or on a separate s	-			

Profile Desc	ription: (Describe	to the de	pth needed to docur	nent the	indicator	or confirm	the absence	of indicators.)
Depth	Matrix			x Feature				
(inches) 0 - 4	Color (moist) 10YR 4/4	<u>%</u> 100	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Silty Clay Loan	Remarks
4 - 10		100		-			Silty Clay Loan	
	10YR 5/4		7 EVD E/6				<del></del>	
10 - 20	2.5Y 5/4	98	7.5YR 5/6	2	<u>C</u>	<u>M</u>	Silty Clay Loan	
	-					· <del></del>		
-	-				<u> </u>			
-								
-								
_								
		-		-	•			
1Type: C=C	ncentration D=De	nletion RM	=Reduced Matrix, MS	S=Masko	d Sand Gr	aine	<sup>2</sup> l ocation: Pl	 L=Pore Lining, M=Matrix.
Hydric Soil		pietion, ixiv	i-Reduced Matrix, Mis	3-IVIASKE	u Sanu Gi	airis.		ators for Problematic Hydric Soils <sup>3</sup> :
Histosol			Dark Surface	(S7)				cm Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue Be		ace (S8) <b>(N</b>	/ILRA 147,		oast Prairie Redox (A16)
Black Hi			Thin Dark Su			147, 148)		(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye		(F2)		P	iedmont Floodplain Soils (F19)
	d Layers (A5) ick (A10) <b>(LRR N)</b>		Depleted Ma Redox Dark		F6)		V	(MLRA 136, 147) ery Shallow Dark Surface (TF12)
	d Below Dark Surfa	ce (A11)	Depleted Dark		•			ther (Explain in Remarks)
	ark Surface (A12)	, ,	Redox Depre					, ,
	lucky Mineral (S1)	(LRR N,	Iron-Mangan		ses (F12) <b>(</b>	LRR N,		
	147, 148)		MLRA 13	-	/MI DA 43	e 422\	3 nodi	icators of hydrophytic vogotation and
	Gleyed Matrix (S4) Redox (S5)		Umbric Surfa Piedmont Flo					icators of hydrophytic vegetation and tland hydrology must be present,
	Matrix (S6)		Red Parent N					less disturbed or problematic.
Restrictive I	Layer (if observed	):						·
Туре:								
Depth (inc	ches):						Hydric Soil	Present? Yes No
Remarks:							<u> </u>	
N <sub>0</sub>	o indicators of	hydric s	soil were presen	t at the	time of	the site	e visit.	

Project/Site: LGEKU Glend	ale	Ci	ity/County: Glendale/F	Hardin	Sampling Date: 2022-03-10
Applicant/Owner: LG&E-KU			, , <u></u>		cky Sampling Point: SP-10
Investigator(s):Burns & McDe	onnell (SB & Ck	() <sub>Si</sub>	ection, Township, Range		<u> </u>
Landform (hillslope, terrace, et				•	Slope (%):_5
					Datum: WGS 84
Soil Map Unit Name: Sonora					
Are climatic / hydrologic condit					
					'present? Yes No
Are Vegetation, Soil				ed, explain any answ	
SUMMARY OF FINDING	GS – Attach s	site map showing s	sampling point loca	ations, transect	s, important features, etc.
Hydrophytic Vegetation Prese	ent? Yes	<u>✓</u> No	lo the Compled Ar		
Hydric Soil Present?	Yes	<u> </u>	Is the Sampled Arwithin a Wetland?		No 🗸
Wetland Hydrology Present?	Yes	<u> No</u>		<del>-</del>	
Remarks:					
Wetland (W)-4 is a palustrir	ne emergent (PEI	M) wetland. Flooded co	onditions were observe	ed at the time of the	e site visit due to recent rainfall.
A	D	(ADT) +			-f. 41
According to the Anteceder	it Precipitation i	ooi (APT), the area wa	is experiencing wet cor	iditions at the time	or the survey.
HYDROLOGY					
Wetland Hydrology Indicate	ors:			Secondary Indic	cators (minimum of two required)
Primary Indicators (minimum		; check all that apply)		Surface So	il Cracks (B6)
Surface Water (A1)	•	True Aquatic Plar	nts (B14)	<del>_</del> -	egetated Concave Surface (B8)
High Water Table (A2)		Hydrogen Sulfide			Patterns (B10)
Saturation (A3)			heres on Living Roots (C	-	
Water Marks (B1)		Presence of Redu			n Water Table (C2)
Sediment Deposits (B2)			uction in Tilled Soils (C6)	Crayfish Bu	ırrows (C8)
Drift Deposits (B3)		Thin Muck Surface	ce (C7)	Saturation \	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Other (Explain in	Remarks)		Stressed Plants (D1)
Iron Deposits (B5)				Geomorphi	ic Position (D2)
Inundation Visible on Aei				Shallow Aq	uitard (D3)
Water-Stained Leaves (E	39)				raphic Relief (D4)
Aquatic Fauna (B13)				<u>✓</u> FAC-Neutra	al Test (D5)
Field Observations:	Yes No	Depth (inches):			
Surface Water Present?					
Water Table Present?		Depth (inches):		nd Hydrology Prese	ent? Yes V No
Saturation Present? (includes capillary fringe)					mitr res No
Describe Recorded Data (stre	eam gauge, monit	oring well, aerial photos,	previous inspections), if	available:	
Remarks:					
Four primary indicator	s and two se	condary indicators	s confirmed wetlan	nd hydrology. Ti	he
water table was likely		-			
water table was likely	ingrier due te	nooded condition	is from recent rain	Tan.	

## Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 139 of 191 McFarland

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

VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: SP-10
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft r )  1. Acer saccharinum	% Cover 15	Species? ✓	Status FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
				(1)
2				Total Number of Dominant Species Across All Strata: 3 (B)
3				Species Across All Strata: 3 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				Prevalence Index worksheet:
7	15%	<del></del>		Total % Cover of: Multiply by:
50% of total cover: 7.5		= Total Cover		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 ft r )	20 /0 01	total cover		FACW species x 2 =
				FAC species x 3 =
1				FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: (A) (B)
4				(1)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 <sup>1</sup>
F00/ -f4-4-1		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover:	20% of	total cover		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 ft r )  1 Juncus dudleyi	30	~	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. Carex sp.	25		FACW	
3. Dichanthelium clandestinum	15		FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	15		FACW	be present, unless disturbed or problematic.
4. Juncus effusus 5. Ludwigia alternifolia	10		FACW	Definitions of Four Vegetation Strata:
6. Panicum capillare	5		FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
			· <del></del>	more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9		-		than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11	4000/			Herb – All herbaceous (non-woody) plants, regardless
F0.0	100%	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 50.0	20% of	total cover	20.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft r )				height.
1				
2				
3			·	
4		-		Hydrophytic
5				Vegetation   Present?
		= Total Cov		Present? Yes V No No
50% of total cover:		total cover		
Remarks: (Include photo numbers here or on a separate s	heet.)			
The Rapid Test for Hydrophytic Vegetation	confirme	d hydroi	ohvtic ve	egetation, Carex sp.
			-	•
could not be identified to the species level d	_		_	•
of hydric soil, wetland hydrology, and other	hydroph	ytic veg	etation, i	t is assumed to be
FACW.				

Profile Desc	ription: (Describe	to the de	oth needed to docum	nent the	indicator	or confirm	the absence	of indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 4	2.5Y 6/2	95	5YR 4/6	5	С	PL / M	Silty Clay Loan	
4 - 20	2.5Y 6/2	80	5YR 4/6	20	С	PL/M		
			<u>• • • • • • • • • • • • • • • • • • • </u>		- <del></del>	·		
		_						
		_						
-								
			·	-		· ——		-
	-							
		_						
-								
1Type: C=Ce	noontration D=Don	lotion DN	=Reduced Matrix, MS		d Sand Cr	oine	<sup>2</sup> Location: D	L=Pore Lining, M=Matrix.
Hydric Soil I		netion, Riv	i–Reduced Matrix, Mis	5-iviaske	u Sanu Gi	airis.		ators for Problematic Hydric Soils <sup>3</sup> :
Histosol			Dark Surface	(87)				cm Muck (A10) (MLRA 147)
_	oipedon (A2)		Polyvalue Be	. ,	ace (S8) <b>/</b> I	/II R Δ 1/17		Coast Prairie Redox (A16)
Black His			Tolyvalde Be				0	(MLRA 147, 148)
_	n Sulfide (A4)		Loamy Gleye			,,	Р	Piedmont Floodplain Soils (F19)
	Layers (A5)		<u>✓</u> Depleted Mat		,			(MLRA 136, 147)
2 cm Mu	ck (A10) (LRR N)		Redox Dark S		F6)		v	ery Shallow Dark Surface (TF12)
	d Below Dark Surfac	e (A11)	Depleted Dar				c	Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	lucky Mineral (S1) (I	LRR N,	Iron-Mangan		ses (F12) (	LRR N,		
	147, 148)		MLRA 13	-	/MI DA 44	0. 400\	31	
	leyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
Sandy R	Matrix (S6)		Piedmont Flo					etland hydrology must be present, less disturbed or problematic.
	_ayer (if observed)	-	Red raient is	nateriai (i	21) (WL)	A 121, 171	T un	less disturbed of problematic.
Type:	ayo: ( oboo! vou)	-						
	ahaa):						Uvdria Cail	Present? Yes No
Depth (inc	Jiles)						Hydric 30ii	Present? Yes No No No
Remarks:		(50)	- <b>f</b> i	-:1				
De	epieted Matrix	(F3) CO	nfirmed hydric s	OII.				

Project/Site: LGEKU Glend	ale			City/C	ounty: Glendale	/Hardin	Sa	mpling Date:	2022-03-10
Applicant/Owner: LG&E-KU									
Investigator(s):Burns & McD	onnell (SB	& CK	)	Section					-
Landform (hillslope, terrace, e					• • • • • • • • • • • • • • • • • • • •		nvex	Slo	ne (%)· 5
Subregion (LRR or MLRA): N					Long				um: WGS 84
Soil Map Unit Name: Sonora						NW			
•									
Are climatic / hydrologic condi									
Are Vegetation, Soil _						Normal Circums	stances" pres	ent? Yes	No
Are Vegetation, Soil _	, or Hy	drology		naturally problema	atic? (If nee	eded, explain a	ny answers ir	n Remarks.)	
SUMMARY OF FINDIN	GS – Atta	ch si	te m	nap showing sam	pling point lo	cations, tra	ansects, in	nportant f	eatures, etc.
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?		Yes Yes Yes	<u></u>	No <u>/</u> No <u>/</u>	Is the Sampled A		Yes	No 🗸	-
Remarks:  SP-11 is located adjacer	ıt to W-4. [	-loode	ed co	onditions were obs	served at the tir	me of the sit	e visit due	to recent ra	ainfall.
According to the Antece	dent Prec	ipitati	on T	ool (APT), the area	a was experienc	cing wet con	iditions at t	he time of	the survey.
HYDROLOGY									
Wetland Hydrology Indicat	ors:					Second	ary Indicators	(minimum o	f two required)
Primary Indicators (minimum	of one is red	quired;	chec	k all that apply)			face Soil Cra		
Surface Water (A1)				True Aquatic Plants (	•	Spa	arsely Vegeta	ted Concave	Surface (B8)
High Water Table (A2)				Hydrogen Sulfide Odd			ainage Patterr		
Saturation (A3)				Oxidized Rhizosphere	-		ss Trim Lines		
Water Marks (B1)				Presence of Reduced			-Season Wat		)
Sediment Deposits (B2)				Recent Iron Reductio	=	<del></del>	ayfish Burrows		(00)
Drift Deposits (B3)				Thin Muck Surface (C	•		turation Visible		
Algal Mat or Crust (B4)				Other (Explain in Ren	narks)		inted or Stress	-	)1)
Iron Deposits (B5)	بسمسمسا امنس	(D <b>7</b> )					omorphic Pos		
Inundation Visible on Ac		(B7)					allow Aquitard		
Water-Stained Leaves ( Aquatic Fauna (B13)	39)						rotopographic C-Neutral Tes		
Field Observations:							C-Neutral Tes	St (D3)	
Surface Water Present?	Yes	No	•	Depth (inches):					
Water Table Present?				Depth (inches):					
Saturation Present? (includes capillary fringe)				Depth (inches):	Wet	land Hydrolog	gy Present?	Yes	_ No
Describe Recorded Data (str	eam gauge,	monito	ring v	well, aerial photos, pre	vious inspections),	, if available:			
Remarks:									_
No indicators of wetla	nd hydro	logy	wer	e present at the	time of the sit	e visit.			

Sampling Point: SP-11

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

00.6	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft r )		Species?		Number of Dominant Species
1. Acer saccharinum	15		FACW	That Are OBL, FACW, or FAC: 2 (A)
2. Prunus serotina	2		FACU	Total Number of Dominant
3				Species Across All Strata: 3 (B)
4				
5			· <u> </u>	Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)
6			· ——	That Ale OBL, FACW, of FAC. (A/B)
			· ——	Prevalence Index worksheet:
7	470/	Tatal Car		Total % Cover of: Multiply by:
50% of total cover: 8.5		= Total Cov		OBL species x 1 =
	20% 01	total cover		FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 15 ft r				FAC species x 3 =
1			<del></del>	
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Prevalence Index = B/A =
6				
7				Hydrophytic Vegetation Indicators:
8				1 - Rapid Test for Hydrophytic Vegetation
9			· ——	✓ 2 - Dominance Test is >50%
<u>.                                    </u>		= Total Cov	/or	3 - Prevalence Index is ≤3.0 <sup>1</sup>
50% of total cover:				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
Herb Stratum (Plot size: 5 ft r )	20 /0 01	total cover		data in Remarks or on a separate sheet)
1 Dichanthelium clandestinum	50	~	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. Poa pratensis	20		FACU	
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
3. Panicum capillare	10		FAC	be present, unless disturbed or problematic.
4. Geum canadense	5		FACU	Definitions of Four Vegetation Strata:
<sub>5.</sub> Juncus effusus	5		FACW	
6. Rumex crispus	5		FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10			. ——	, 🟎
11	95%		<del></del>	Herb – All herbaceous (non-woody) plants, regardless
500/ 51.1.1 47.5		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>47.5</u>	20% of	total cover	19.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft r )				height.
1		-	· ——	
2				
3				
4				Underschie
5				Hydrophytic Vegetation
		= Total Cov	/er	Present? Yes V No No
50% of total cover:				
Remarks: (Include photo numbers here or on a separate s				
	•			
The Dominance Test confirmed hydrophytic	vegetat	ion.		

Profile Desc	ription: (Describe	to the dep	th needed to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix			x Feature				
(inches) 0 - 4	Color (moist) 10YR 3/2	90	Color (moist)	<u></u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Silty Clay Loan	Remarks
0 - 4	10 TR 5/2	10					Silty Clay Loan	
4 - 20		100					Silty Clay Loan	·
4 - 20	2.5Y 5/4	_ 100					Silty Clay Loan	
								·
<sup>1</sup> Type: C=Co	oncentration, D=De	pletion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: F	PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indic	ators for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Dark Surface					2 cm Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue Be				148) (	Coast Prairie Redox (A16)
Black Hi			Thin Dark Su			47, 148)		(MLRA 147, 148)
	n Sulfide (A4) d Layers (A5)		Loamy Gleye Depleted Ma	-	F2)		'	Piedmont Floodplain Soils (F19)  (MLRA 136, 147)
	ick (A10) <b>(LRR N)</b>		Redox Dark		:6)		\	/ery Shallow Dark Surface (TF12)
	d Below Dark Surfa	ce (A11)	Depleted Da	•	,			Other (Explain in Remarks)
	ark Surface (A12)	, ,	Redox Depre				- <u></u> -	,
Sandy M	lucky Mineral (S1)	(LRR N,	Iron-Mangan	ese Mass	es (F12) <b>(</b>	LRR N,		
	A 147, 148)		MLRA 13	-			2	
	Gleyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
	Redox (S5) Matrix (S6)		Piedmont Flo					etland hydrology must be present, nless disturbed or problematic.
	Layer (if observed)	):	Red Falelit I	viateriai (F	21) (WLK	A 121, 141	<u>                                     </u>	liess disturbed of problematic.
Type:		,-						
Depth (inc	ches):						Hydric Soi	I Present? Yes No
Remarks:			<del></del>				11,4110 001	
	o indicators of	hvdric so	oil were presen	t at the	time of	the site	visit.	
		,						

Project/Site: LGEKU Glenc	lale	City/C	ounty: Glendale/Hardin	San	npling Date: 2022-03-10
Applicant/Owner: LG&E-KU					
Investigator(s):Burns & McD	onnell (SB & CK)	Section			- F 5
Landform (hillslope, terrace, et					Slope (%): 6
Subregion (LRR or MLRA): N					
Soil Map Unit Name: Sonora					
Are climatic / hydrologic condit					
Are Vegetation, Soil					
Are Vegetation, Soil	, or Hydrology	naturally problema	itic? (If needed, exp	lain any answers in	Remarks.)
SUMMARY OF FINDIN	GS – Attach site	map showing sam	pling point location	s, transects, im	portant features, etc.
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?	Yes 🗸	No No No	Is the Sampled Area within a Wetland?	Yes	No
Remarks:					
Wetland (W)-5 is a palustri According to the Antecede	-				
HYDROLOGY					
Wetland Hydrology Indicat	ors:		Se	econdary Indicators	(minimum of two required)
Primary Indicators (minimum	of one is required; che	eck all that apply)		_ Surface Soil Crac	ks (B6)
Surface Water (A1)	_	True Aquatic Plants (E	B14)	_ Sparsely Vegetate	ed Concave Surface (B8)
High Water Table (A2)		_ Hydrogen Sulfide Odd		_ Drainage Patterns	
Saturation (A3)		•	es on Living Roots (C3)		
Water Marks (B1)		Presence of Reduced		_ Dry-Season Wate	
Sediment Deposits (B2)		Recent Iron Reduction	· · · · · · · · · · · · · · · · · · ·	_ Crayfish Burrows	
Drift Deposits (B3)		Thin Muck Surface (C			on Aerial Imagery (C9)
Algal Mat or Crust (B4)	_	Other (Explain in Rem	narks)	_ Stunted or Stress	
Iron Deposits (B5)				Geomorphic Posit	
Inundation Visible on Ae			_	_ Shallow Aquitard	
Water-Stained Leaves (	39)		<del>-</del>	_ Microtopographic	Relief (D4)
Aquatic Fauna (B13)				FAC-Neutral Test	(D5)
Field Observations:	Van Na V	Double (Southern)			
Surface Water Present?		Depth (inches): Depth (inches):			
Water Table Present? Saturation Present?		Depth (inches): 4	Wotland Hye	Irology Present?	Yes No
(includes capillary fringe)  Describe Recorded Data (str					iesNo
Describe Recorded Data (str	eam gauge, monitorin	g well, aerial priotos, prev	vious inspections), ii avalia	oie:	
Remarks:					
Two primary indicator	s and two secon	ndary indicators co	nfirmed wetland hyd	drology.	

# Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 145 of 191 McFarland

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

/EGETATION (Four Strata) – Use scientific h		•		Sampling Point. 3F-12
Tree Stratum (Plot size: 30 ft r	Absolute			Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
3				Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cov		OBL species x 1 =
50% of total cover: Sapling/Shrub Stratum (Plot size: 15 ft r)	20% 01	total cover		FACW species x 2 =
				FAC species x 3 =
1				FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: (A) (B)
4				Goldmin Totals (A) (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 <sup>1</sup>
		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 ft r )	20		FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. Ranunculus repens	30			<u> </u>
2. Juncus effusus	25		FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
3. Poa pratensis	10		FACU	be present, unless disturbed or problematic.
4. Trifolium campestre	10		UPL	Definitions of Four Vegetation Strata:
5				Tree Meady plants avaluating vines 2 in (7.0 cm) or
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				<b>Herb</b> – All herbaceous (non-woody) plants, regardless
	75%	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>37.5</u>	20% of	total cover:	15.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft r )				height.
1				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cov	er	Present? Yes No No
50% of total cover:	20% of	total cover:		
Remarks: (Include photo numbers here or on a separate s	heet.)			•
The Dominance Test confirmed hydrophytic	vegetat	ion.		

Profile Desc	ription: (Describe	to the de	oth needed to docur	nent the	indicator	or confirm	n the absence of indicators.)	
Depth	Matrix	-		x Feature			,	
(inches)	Color (moist)	%	Color (moist)	%	_Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
0 - 3	2.5Y 4/2	70	5YR 4/6	5	С	М	Sandy Clay Loa	
0 - 3	10YR 4/3	25					Sandy Clay Loa	
3 - 8	2.5Y 5/2	80	5YR 4/6	20	С	M	Sandy Clay Loa	
8 - 16	2.5Y 5/2	60	5YR 4/6	40	C	M	Sandy Clay Loa	
	2.51 5/2		311(4/0	40		141		
-	-		·			·		
					_			
-								
					-			
<sup>1</sup> Type: C=Co	ncentration D=Den	letion RM	=Reduced Matrix, MS	S=Maske	d Sand Gr	ains	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
Hydric Soil		notion, raiv	reduced Watrix, Wit	J WIGORC	a cana ci	uiiio.	Indicators for Problematic Hydric Se	oils³:
Histosol			Dark Surface	(S7)			2 cm Muck (A10) (MLRA 147)	
	pipedon (A2)		Polyvalue Be		ace (S8) <b>(N</b>	ILRA 147,		
Black Hi	stic (A3)		Thin Dark Su	ırface (S9	) (MLRA	147, 148)	(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		(F2)		Piedmont Floodplain Soils (F19)	
	Layers (A5)		<u>✓</u> Depleted Ma		F0)		(MLRA 136, 147)	
	ick (A10) <b>(LRR N)</b> d Below Dark Surfac	- (Δ11)	Redox Dark : Depleted Dark :		•		<ul><li>Very Shallow Dark Surface (TF12</li><li>Other (Explain in Remarks)</li></ul>	)
. —	ark Surface (A12)	C (ATT)	Redox Depre				Other (Explain in Remarks)	
	lucky Mineral (S1) (I	LRR N,	Iron-Mangan			LRR N,		
	147, 148)		MLRA 13	6)				
	leyed Matrix (S4)		Umbric Surfa				<sup>3</sup> Indicators of hydrophytic vegetation	
	edox (S5)		Piedmont Flo					Ĺ <b>,</b>
	Matrix (S6)  ayer (if observed):		Red Parent N	viateriai (i	F21) (MLR	A 127, 147	7) unless disturbed or problematic.	
Type: Be		•						
Depth (inc							Hydric Soil Present? Yes V No	
							Hydric Soil Present? Yes No _	
Remarks:	aplated Matrix (F	[2] confi	rmed hydric soil.					
D.	spieteu Matrix (i	3) (01111	inieu nyunc son.					

Project/Site: LGEKU Glend	ale		Citv/Co	ounty: Glendale/Hard	in s	Sampling Date: 2022-03-10
Applicant/Owner: LG&E-KU						Sampling Point: SP-13
Investigator(s):Burns & McDo	onnell (SB & CK)		Section			
Landform (hillslope, terrace, etc						Slone (%): 8
Subregion (LRR or MLRA): N						
Soil Map Unit Name: Sonora						
Are climatic / hydrologic conditi						
Are Vegetation, Soil					Circumstances" pre	esent? Yes No
Are Vegetation, Soil	, or Hydrology	natura	lly problema	tic? (If needed, ex	xplain any answers	in Remarks.)
SUMMARY OF FINDING	GS – Attach sit	e map shov	wing sam	pling point location	ns, transects, i	important features, etc.
Hydrophytic Vegetation Prese	ant? Yes	No •	/			
Hydric Soil Present?	Yes	No •	_	Is the Sampled Area	Yes	No ✔
Wetland Hydrology Present?	Yes	No •	_	within a Wetland?	——	NO <u>•</u>
Remarks:	<del>-</del>					
SP-13 is located adjacen	t to W-5. Floode	ed conditions	s were obs	erved at the time of	the site visit due	e to recent rainfall.
According to the Antece	dent Precipitatio	n Tool (APT	), the area	was experiencing w	et conditions at	the time of the survey.
HYDROLOGY						
Wetland Hydrology Indicato						rs (minimum of two required)
Primary Indicators (minimum	of one is required; of				Surface Soil Cr	
Surface Water (A1)		True Aqua				tated Concave Surface (B8)
High Water Table (A2)		Hydrogen			Drainage Patte	
Saturation (A3)					Moss Trim Line	
Water Marks (B1)		Presence			Dry-Season Wa	
Sediment Deposits (B2)				n in Tilled Soils (C6)	Crayfish Burrov	
Drift Deposits (B3)		Thin Mucl		•		ble on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Other (Ex	plain in Rem	iarks)		essed Plants (D1)
Iron Deposits (B5)					Geomorphic Po	
Inundation Visible on Aer					Shallow Aquita	
Water-Stained Leaves (B	.9)				Microtopograph	
Aquatic Fauna (B13)					FAC-Neutral Te	est (D5)
Field Observations:	V N-	V Daniella (in	-h\			
Surface Water Present?	Yes No _		nches):			
Water Table Present?	Yes No _ Yes No _	Depth (in			duala a Dua a a ut?	Vos No V
Saturation Present? (includes capillary fringe)	res No	Depth (in	icnes):	wetland H	ydrology Present?	P Yes No
Describe Recorded Data (stre	am gauge, monitor	ing well, aerial	photos, prev	vious inspections), if avail	lable:	
Remarks:						
No indicators of wetla	nd bydrology y	voro procor	at at the t	ima of the cite vici	+	
INO III GICALOIS OI WELIA	na nyarology v	vere preser	it at tile t	illie of the site visi		

## Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 148 of 191 McFarland

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

/EGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: SP-13
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft r 1. Juniperus virginiana	% Cover 20	Species? ✓	Status FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2. Quercus falcata	5		FACU	( )
				Total Number of Dominant Species Across All Strata: 5 (B)
3				Species Across All Strata: 5 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 20 (A/B)
6				Prevalence Index worksheet:
7	0.50/	<del></del>		Total % Cover of: Multiply by:
50% of total cover: 12.5		= Total Cov		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 ft r )	20 /0 01	total cover.		FACW species x 2 =
				FAC species x 3 =
1				FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: (A) (B)
4				(3)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8			-	2 - Dominance Test is >50%
9			· ——	3 - Prevalence Index is ≤3.0 <sup>1</sup>
E00/ of total cover		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover: Herb Stratum (Plot size: 5 ft r)	20 % 01	total cover.	·	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 ft f )  1 Ranunculus repens	35	~	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. Trifolium campestre	30		UPL	
3. Poa pratensis	20	· -	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10	· <del></del>		· ——	m) tall.
11	0.50/		· ——	Herb – All herbaceous (non-woody) plants, regardless
50% of total cover: 42.5		= Total Cov		of size, and woody plants less than 3.28 ft tall.
	20% of	total cover	17.0	Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft r )				height.
1			· ——	
2				
3			·	
4		· -	· ——	Hydrophytic
5			-	Vegetation Present? Yes No ✓
50% of total cover:		= Total Cov		103 NO
		total cover.	·	
Remarks: (Include photo numbers here or on a separate s	sileet.)			
No indicators of hydrophytic vegetation were pro	esent at t	he time o	f the site	visit.

Profile Desc	ription: (Describe	to the dep	th needed to docur	nent the i	indicator	or confirn	n the absence of inc	dicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3	10YR 3/2	90					Silty Clay Loan	
0 - 3	10YR 5/6	10					Silty Clay Loan	
3 - 8	10YR 5/4	100					Silty Clay Loan	
8 - 20	7.5YR 5/8	100					Clay Loam	
-								
								<del>-</del>
	-				-			
	-							
1							2	
		pletion, RM	=Reduced Matrix, MS	S=Masked	d Sand Gra	ains.		e Lining, M=Matrix.
Hydric Soil I			Davida Occidente	(07)				for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1) pipedon (A2)		Dark Surface Polyvalue Be		CE (SS) /N	II R A 147		uck (A10) <b>(MLRA 147)</b> Prairie Redox (A16)
Black Hi			Polyvalue Be					RA 147, 148)
	n Sulfide (A4)		Loamy Gleye			,0,	•	ont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma		,			RA 136, 147)
	ıck (A10) (LRR N)		Redox Dark		,			nallow Dark Surface (TF12)
	d Below Dark Surfac	ce (A11)	Depleted Dai				Other (	Explain in Remarks)
	ark Surface (A12) Iucky Mineral (S1) (	I DD N	Redox Depre			I DD NI		
-	147, 148)	LKK N,	MLRA 13		es (F12) <b>(</b>	LKK N,		
	Gleyed Matrix (S4)		Umbric Surfa	-	(MLRA 13	6, 122)	<sup>3</sup> Indicators	s of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo					hydrology must be present,
Stripped	Matrix (S6)		Red Parent N	/laterial (F	21) <b>(MLR</b>	A 127, 14	7) unless d	isturbed or problematic.
Restrictive I	Layer (if observed)	):						
Type:								,
Depth (inc	ches):						Hydric Soil Prese	ent? Yes No 🗸
Remarks:								
No.	o indicators of	hydric s	oil were presen	t at the	time of	the site	e visit.	

Project/Site: LGEKU Glend	ale		City/C	ounty: Glendale/Hard	din	Sampling Date: 2022-03-10
Applicant/Owner: LG&E-KU						ky Sampling Point: SP-14
Investigator(s):Burns & McDo	onnell (SB &	CK)				
Landform (hillslope, terrace, etc						Slope (%): 20
Subregion (LRR or MLRA): N						
Soil Map Unit Name: Sonora						
Are climatic / hydrologic conditi						
						present? Yes No _
Are Vegetation, Soil						
						s, important features, etc.
Livelyon by the Manager Droop		es 🗸	No			
Hydrophytic Vegetation Present?	>11C:	es 🗸	No —	Is the Sampled Area	Voc. 44	/ No
Wetland Hydrology Present?	Y	es 🗸	No —	within a Wetland?	Yes _	No
Remarks:						
Wetland (W)-6 is a farmed						it due to recent rainfall.  at the time of the survey.
HYDROLOGY						
Wetland Hydrology Indicato					•	ators (minimum of two required)
Primary Indicators (minimum	of one is requi		-		Surface Soil	
Surface Water (A1)			True Aquatic Plants (I	•		getated Concave Surface (B8)
High Water Table (A2)			Hydrogen Sulfide Odd		-	atterns (B10)
Saturation (A3)				es on Living Roots (C3)	Moss Trim L	
Water Marks (B1)			Presence of Reduced			Water Table (C2)
Sediment Deposits (B2)			Recent Iron Reduction		Crayfish Bu	
Drift Deposits (B3)			Thin Muck Surface (C	·		/isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		— '	Other (Explain in Ren	narks)	Geomorphic	Stressed Plants (D1)
Iron Deposits (B5) Inundation Visible on Aer	ial Imageny (R	:7)			Shallow Aqu	
Water-Stained Leaves (B		1)				raphic Relief (D4)
Aquatic Fauna (B13)	9)				FAC-Neutra	
Field Observations:					1710 1404114	ii rest (Bo)
Surface Water Present?	Yes	No 🗸	Depth (inches):			
Water Table Present?			Depth (inches): 14			
Saturation Present?			Depth (inches): 10	Wetland H	lydrology Prese	nt? Yes <u> </u>
(includes capillary fringe)  Describe Recorded Data (stre	am gauge, m	onitoring w	ell, aerial photos, pre	l vious inspections), if ava	ilable:	
Remarks:						
One primary and two s	econdary	indicato	rs confirmed we	etland hydrology.		

# Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 151 of 191 McFarland

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

Sampling Point: SP-14

20 ft #	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft r ) 1.	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
4       5				Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cov		OBL species 0 x 1 = 0
50% of total cover:	20% of	total cover		FACW species 0 x 2 = 0
Sapling/Shrub Stratum (Plot size: 15 ft r )				FAC species 30 x 3 = 90
1				FACU species 15 x 4 = 60
2				UPL species 0 x 5 = 0
3				
4				Column Totals: <u>45</u> (A) <u>150</u> (B)
5				Prevalence Index = B/A = 3.33
6				Hydrophytic Vegetation Indicators:
7		-	· ——	1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 <sup>1</sup>
F00/ - f4-4-1		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover:	20% of	total cover		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 ft r )  1. Panicum capillare	25	~	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
•	15		FACU	
2. Poa pratensis 3. Rumex crispus	5		FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
			1 70	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11	45%	Total Cov		<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 22.5				
Woody Vine Stratum (Plot size: 30 ft r )				Woody vine – All woody vines greater than 3.28 ft in height.
1				
3				
4				
5				Hydrophytic Vegetation
<u> </u>		= Total Cov	or .	Present? Yes V No No
50% of total cover:				
Remarks: (Include photo numbers here or on a separate s	heet.)			
Vegetation was disturbed from farming, dea	d soybea	ans from	the pre	vious year present. Due
to the position in the landscape and the pres	=		-	
assume the vegetation would be hydrophyti		=		· J · · · · · · · · · · · · · · · · · ·

Depth (Inches)
Color (moist)
A · 10   2.5 Y 5/2   90   5 YR 4/6   10   C   M   Clay Loam
10 - 20
10 - 20
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Type: C=Concentration, D=Depleted Surface (S9) (MLRA 147, 148)    Muck (A10) (MLRA 147)
Hydric Soil Indicators:  Histosol (A1)  Polrk Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Mark Surface (F13) (MLRA 136, 122)  Sandy Redox (S5)  Indicators for Problematic Hydric Soils <sup>3</sup> :  Indicators of Problematic Hydrology must be present,
Hydric Soil Indicators:  Histosol (A1)  Polrk Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Mark Surface (F13) (MLRA 136, 122)  Sandy Redox (S5)  Indicators for Problematic Hydric Soils <sup>3</sup> :  Indicators of Problematic Hydrology must be present,
Hydric Soil Indicators:  Histosol (A1)  Polrk Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Mark Surface (F13) (MLRA 136, 122)  Sandy Redox (S5)  Indicators for Problematic Hydric Soils <sup>3</sup> :  Indicators of Problematic Hydrology must be present,
Hydric Soil Indicators:  Histosol (A1)  Polrk Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Mark Surface (F13) (MLRA 136, 122)  Sandy Redox (S5)  Indicators for Problematic Hydric Soils <sup>3</sup> :  Indicators of Problematic Hydrology must be present,
Hydric Soil Indicators:  Histosol (A1)  Polrk Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Mark Surface (F13) (MLRA 136, 122)  Sandy Redox (S5)  Indicators for Problematic Hydric Soils <sup>3</sup> :  Indicators of Problematic Hydrology must be present,
Hydric Soil Indicators:  Histosol (A1)  Polrk Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Mark Surface (F13) (MLRA 136, 122)  Sandy Redox (S5)  Indicators for Problematic Hydric Soils <sup>3</sup> :  Indicators of Problematic Hydrology must be present,
Hydric Soil Indicators:  Histosol (A1)  Polrk Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Mark Surface (F13) (MLRA 136, 122)  Sandy Redox (S5)  Indicators for Problematic Hydric Soils <sup>3</sup> :  Indicators of Problematic Hydrology must be present,
Hydric Soil Indicators:  Histosol (A1)  Polrk Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Mark Surface (F13) (MLRA 136, 122)  Sandy Redox (S5)  Indicators for Problematic Hydric Soils <sup>3</sup> :  Indicators of Problematic Hydrology must be present,
Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (F6)  Depleted Below Dark Surface (A11)  Thic Dark Surface (F7)  Depleted Dark Surface (F7)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F2)  Piedmont Floodplain Soils (F19)  (MLRA 136, 147)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  MLRA 136)  Jron-Manganese Masses (F12) (LRR N, MLRA 136, 122)  Sandy Redox (S5)  Jindicators of hydrophytic vegetation and Piedmont Floodplain Soils (F19) (MLRA 148)  wetland hydrology must be present,
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Polyvalue Below Surface (S8) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)  MLRA 147, 148)  MLRA 147, 148)  Sandy Gleyed Matrix (S4) Sandy Redox (S5) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5)  Polyvalue Below Surface (S8) (MLRA 147, 148)  (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 147, 148)  Very Shallow Dark Surface (TF12) Other (Explain in Remarks)  Other (Explain in Remarks)  All Coast Prairie Redox (A16)  (MLRA 147, 148)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  Jindicators of hydrophytic vegetation and wetland hydrology must be present,
Black Histic (A3)Thin Dark Surface (S9) (MLRA 147, 148)(MLRA 147, 148)Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Piedmont Floodplain Soils (F19)Stratified Layers (A5)✓ Depleted Matrix (F3)(MLRA 136, 147)2 cm Muck (A10) (LRR N)Redox Dark Surface (F6)Very Shallow Dark Surface (TF12)Depleted Below Dark Surface (A11)Depleted Dark Surface (F7)Other (Explain in Remarks)Thick Dark Surface (A12)Redox Depressions (F8)Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)Iron-Manganese Masses (F12) (LRR N, MLRA 136)Sandy Gleyed Matrix (S4)Umbric Surface (F13) (MLRA 136, 122)³Indicators of hydrophytic vegetation and yeledmont Floodplain Soils (F19) (MLRA 148)
Hydrogen Sulfide (A4) Stratified Layers (A5)  2 cm Muck (A10) (LRR N) Depleted Matrix (F3) MLRA 136, 147)  Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5)  Loamy Gleyed Matrix (F2) Depleted Matrix (F2) Medox Dark Surface (F6) Depleted Balow Dark Surface (F6) Depleted Dark Surface (F7) Depleted Dark Surface (F7) Cher (Explain in Remarks)  Other (Explain in Remarks)  All CLRR N, MLRA 136)  When Matrix (S4) Multer 136, 122)  Sandy Redox (S5)  Jindicators of hydrophytic vegetation and wetland hydrology must be present,
Stratified Layers (A5)  2 cm Muck (A10) (LRR N)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Depleted Matrix (F3)  Redox Dark Surface (F7)  Depleted Dark Surface (F7)  Other (Explain in Remarks)  Other (Explain in Remarks)  Iron-Manganese Masses (F12) (LRR N, MLRA 136)  Umbric Surface (F13) (MLRA 136, 122)  Sandy Redox (S5)  Sindicators of hydrophytic vegetation and Piedmont Floodplain Soils (F19) (MLRA 148)  wetland hydrology must be present,
2 cm Muck (A10) (LRR N)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) 3Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present,
Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N,
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148)
MLRA 147, 148)  Sandy Gleyed Matrix (S4) Sandy Redox (S5)  MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148)  MLRA 136)  Wetland hydrology must be present,
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)  3Indicators of hydrophytic vegetation and wetland hydrology must be present,
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present,
Suipped many (OO) Too i dioni material (i £1) (metric let ; let ; let ; unicoo diotaloca di probiciliatio.
Restrictive Layer (if observed):
Type:
Depth (inches): No
Remarks:
Depleted matrix (F3) confirmed hydric soil.
Depleted matrix (1.5) committee nyanc son.
I I

Project/Site: LGEKU Glene	dale			Citv/C	County: Glendale/Ha	nrdin S	Sampling Date: 2022-03-10	
Applicant/Owner: LG&E-KU							Sampling Point: SP-15	
Investigator(s):Burns & McD	onnell (SB &	CK)		Secti	on, Township, Range:		, J	
Landform (hillslope, terrace, e							Slope (%):_5	
Subregion (LRR or MLRA): N								
Soil Map Unit Name: Sonor								
Are climatic / hydrologic condi								
Are Vegetation, Soil								
Are Vegetation, Soil _						, explain any answers	·	
SUMMART OF FINDIN	IGS – Allac	n site	map si	lowing San		ions, transects, i	mportant features, etc.	
Hydrophytic Vegetation Present?  Yes No Is the Same				Is the Sampled Area	1			
Hydric Soil Present?	_	es	_ No		within a Wetland?	Yes	No 🔽	
Wetland Hydrology Present? Remarks:	У Ү	es	No					
SP-15 is located adjace								
HYDROLOGY								
Wetland Hydrology Indica						•	rs (minimum of two required)	
Primary Indicators (minimum	of one is requ				(0.1.1)	Surface Soil Cr		
Surface Water (A1) High Water Table (A2)				lquatic Plants ( gen Sulfide Od		Sparsely Veget Drainage Patte	tated Concave Surface (B8)	
Saturation (A3)					res on Living Roots (C3			
Water Marks (B1)				nce of Reduce	-	Dry-Season Wa		
Sediment Deposits (B2)					on in Tilled Soils (C6)	Crayfish Burrov		
Drift Deposits (B3)				luck Surface (0			ole on Aerial Imagery (C9)	
Algal Mat or Crust (B4)		_	_ Other	(Explain in Rei	marks)	Stunted or Stre	ssed Plants (D1)	
Iron Deposits (B5)						Geomorphic Po	osition (D2)	
Inundation Visible on A		37)				Shallow Aquita		
Water-Stained Leaves (	B9)					Microtopograph		
Aquatic Fauna (B13) Field Observations:						FAC-Neutral Te	est (D5)	
Surface Water Present?	Yes	No V	Denth	ı (inches):				
Water Table Present?	Yes	No V		i (inches):				
Saturation Present?				i (inches):	Wetland	I Hydrology Present?	Yes No	
(includes capillary fringe)								
Describe Recorded Data (st	eam gauge, m	onitoring	g well, ae	riai pnotos, pre	evious inspections), if a	valiable:		
Remarks:								
No indicators of wetla	and hydrolo	gy we	re pres	sent at the	time of the site v	isit.		
1								

# Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 154 of 191 McFarland

	ames of	•		Sampling Point: SP-15
20 4		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft r )		Species?		Number of Dominant Species
				That Are OBL, FACW, or FAC: $0$ (A)
2				Total Number of Dominant
3				Species Across All Strata: 1 (B)
1. <u> </u>				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0 (A/I
S				
7				Prevalence Index worksheet:
		= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover:				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 ft r )				FACW species x 2 =
l				FAC species x 3 =
2.				FACU species x 4 =
				UPL species x 5 =
3				Column Totals: (A) (B
4				(1)
5				Prevalence Index = B/A =
S	-			Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
3				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0¹
		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover:	20% of	total cover:		
Herb Stratum (Plot size: 5 ft r )				data in Remarks or on a separate sheet)
<sub>1.</sub> Poa pratensis	80	<b>~</b>	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Rumex crispus	5		FAC	
3				Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm)
6				more in diameter at breast height (DBH), regardless of
7				height.
В				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardles
	<u>85%</u> .	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>42.5</u>	20% of	total cover:	17.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft r )				height.
1				
2				
1				
2				Hydrophytic Vegetation
2. 3.				Vegetation
2. 3. 4.	·	= Total Cov	  er	Vegetation

Profile Desc	ription: (Describe	to the depth	needed to docu	ment the i	ndicator	or confirm	n the absenc	e of indicators.)
Depth	Matrix			x Features	3			
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 20	2.5Y 4/3	100					Silty Clay Loar	η
	-				-		-	
-								
					-			
	-							
-								
_			_					
					-			- ·
					-		-	
	1							
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion, RM=F	Reduced Matrix, M	S=Masked	Sand Gra	ains.	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix.
Hydric Soil I			,					cators for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Dark Surface	e (S7)				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ce (S8) (N	ILRA 147.		Coast Prairie Redox (A16)
Black Hi			Thin Dark Su				· —	(MLRA 147, 148)
Hydroge	n Sulfide (A4)		Loamy Gleye					Piedmont Floodplain Soils (F19)
Stratified	Layers (A5)		Depleted Ma	trix (F3)				(MLRA 136, 147)
2 cm Mu	ck (A10) (LRR N)		Redox Dark	Surface (F	6)			Very Shallow Dark Surface (TF12)
Depleted	Below Dark Surfac	e (A11)	Depleted Da	rk Surface	(F7)			Other (Explain in Remarks)
Thick Da	rk Surface (A12)		Redox Depre	essions (F8	3)			
Sandy M	lucky Mineral (S1) (	LRR N,	Iron-Mangan	ese Masse	es (F12) <b>(</b>	LRR N,		
MLRA	147, 148)		MLRA 13	6)				
	leyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
Sandy R			Piedmont Flo					vetland hydrology must be present,
	Matrix (S6)		Red Parent I	Material (F	21) <b>(MLR</b>	A 127, 147	<b>7)</b> u	nless disturbed or problematic.
Restrictive I	ayer (if observed)	:						
Type:			<u> </u>					
Depth (inc	ches):						Hydric So	il Present? Yes No 🛩
Remarks:								
	o indicators of	hvdric soi	l were presen	t at the	time of	the site	visit.	
• • • • • • • • • • • • • • • • • • • •		,	p				, ,,,,,,,	
I								
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ĺ								

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: LGEKU Glend	dale				Citv/C	County: Glendale/	/Hardin	Sa	mpling Date:	2022-0	)3-10
Applicant/Owner: LG&E-KU								State: Kentucky			
Investigator(s):Burns & McD		& CK)	)		Section	on. Township, Rang				-	
Landform (hillslope, terrace, e						lief (concave, conve	-	Convex	Slo	ne (%).	10
Subregion (LRR or MLRA): N						•				–	
Soil Map Unit Name: Sonor											
Are climatic / hydrologic condi											
											<b>~</b>
Are Vegetation, Soil										No	) <u> </u>
Are Vegetation, Soil _	, or Hyd	irology		natu	irally problema	atic? (If need	ded, exp	ain any answers ir	n Remarks.)		
SUMMARY OF FINDIN	IGS – Atta	ch si	te m	ap sh	owing san	npling point lo	cations	s, transects, in	nportant f	eature	s, etc.
Hydrophytic Vegetation Pres	sent?	Yes		No	<b>✓</b>						
Hydric Soil Present?		Yes		No	V	Is the Sampled A within a Wetland		Yes	No 🗸		
Wetland Hydrology Present?	?	Yes		No	<u></u>	within a wetiand	4 :				
Remarks:						•					
SP-16 is a test pit adjacent	to standing	water	. Floo	ded co	nditions wer	e observed at the	time of	the site visit due t	to recent rai	nfall.	
According to the Antecede	nt Precipitat	ion To	ol (AF	PT), th	e area was e	xperiencing wet co	ondition	s at the time of th	e survey.		
HYDROLOGY											
Wetland Hydrology Indicat	ors:						Se	condary Indicators	s (minimum o	f two rea	uired)
Primary Indicators (minimum		uired:	check	all tha	t apply)			_ Surface Soil Cra	•		
Surface Water (A1)					quatic Plants (	(B14)		_ Sparsely Vegeta		Surface	(B8)
High Water Table (A2)					en Sulfide Od			_ Drainage Patterr			(==)
Saturation (A3)						res on Living Roots	(C3)				
Water Marks (B1)					ce of Reduced			_ Dry-Season Wat		)	
Sediment Deposits (B2)	ł					on in Tilled Soils (C6	3)	_ Crayfish Burrows	s (C8)		
Drift Deposits (B3)				Thin M	uck Surface (0	C7)		_ Saturation Visible	e on Aerial In	nagery (0	29)
Algal Mat or Crust (B4)			(	Other (	Explain in Rer	marks)		_ Stunted or Stres	sed Plants (D	)1)	
Iron Deposits (B5)								_ Geomorphic Pos	sition (D2)		
Inundation Visible on Ae		(B7)						_ Shallow Aquitaro	d (D3)		
Water-Stained Leaves (	B9)							_ Microtopographi			
Aquatic Fauna (B13)							_	_ FAC-Neutral Tes	st (D5)		
Field Observations:	.,		~	<b>5</b> "	<i>"</i> 1 )						
Surface Water Present?	Yes		<u> </u>	•	(inches):	<del></del>					
Water Table Present?	Yes	_ No _	<u> </u>		(inches):				V	NI -	~
Saturation Present? (includes capillary fringe)	Yes	_ NO _		Deptn	(inches):	wetia	and Hyd	rology Present?	Yes	_ No	<u> </u>
Describe Recorded Data (str	ream gauge, i	monito	ring w	ell, aer	ial photos, pre	evious inspections),	if availab	ole:			
Remarks:											
No indicators of wetle	امسلميط لمصد				ont ot the	times of the city	a viait				
No indicators of wetla	ilia Hyaroi	ogy	were	pres	ent at the	time of the site	e visit.				
1											

## Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 157 of 191 McFarland

'EGETATION (Four Strata) – Use scientific n		Sampling Point: SP-16				
00.6		Dominant		Dominance Test worksheet:		
Tree Stratum (Plot size: 30 ft r ) 1)	% Cover	Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)		
2.						
3.				Total Number of Dominant Species Across All Strata: 2 (B)		
4				opecies Across Air otrata (b)		
				Percent of Dominant Species		
5				That Are OBL, FACW, or FAC: 50 (A/B)		
6				Prevalence Index worksheet:		
7				Total % Cover of:Multiply by:		
50% of total cover:		= Total Cov		OBL species x 1 =		
Sapling/Shrub Stratum (Plot size: 15 ft r )	20 /0 01	total cover.		FACW species x 2 =		
				FAC species x 3 =		
1				FACU species x 4 =		
2				UPL species x 5 =		
3				Column Totals: (A) (B)		
4				Column Totals (A) (B)		
5				Prevalence Index = B/A =		
6				Hydrophytic Vegetation Indicators:		
7				1 - Rapid Test for Hydrophytic Vegetation		
8				2 - Dominance Test is >50%		
9				3 - Prevalence Index is ≤3.0 <sup>1</sup>		
		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supporting		
50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)		
Herb Stratum (Plot size: 5 ft r )	20	,	EAO	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)		
1. Panicum capillare	30		FAC	residential right opiny to regold a confidence (2) planty		
2. Poa pratensis	20		FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must		
3	. ———			be present, unless disturbed or problematic.		
4				Definitions of Four Vegetation Strata:		
5				- W		
6				<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of		
7				height.		
8				Sapling/Shrub – Woody plants, excluding vines, less		
9				than 3 in. DBH and greater than or equal to 3.28 ft (1		
10				m) tall.		
11				<b>Herb</b> – All herbaceous (non-woody) plants, regardless		
	50%	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.		
50% of total cover: 25.0		total cover:		Manda da dina Allumada dina arradar than 2.20 ft in		
Woody Vine Stratum (Plot size: 30 ft r )				<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.		
1				· · · · · · · · · · · · · · · · · · ·		
2						
3						
4						
5				Hydrophytic Vegetation		
		= Total Cov		Present? Yes No		
50% of total cover:						
Remarks: (Include photo numbers here or on a separate s	sheet.)			<u>- I</u>		
	,					
No indicators of hydrophytic vegetation wei	e presen	it at the	time of t	the site visit. Vegetation		
was disturbed due to farming.						
ŭ						

SOIL Sampling Point: SP-16

Profile Desc	ription: (Describe	to the de	pth needed to docu	ment the	indicator	or confirn	the absence of i	ndicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 2	10YR 4/4	100					Silty Clay Loan	
2 - 20	10YR 5/4	90	7.5YR 5/6	5	С	М	Silty Clay Loan	
2 - 20			10YR 7/4	5	D	М		
-								
		_			·	· ——		
					-	<del></del>		
						. ——		
					<u> </u>	<del></del>		
-								
				-				
<sup>1</sup> Type: C=Co	ncentration D=Der	oletion RM	1=Reduced Matrix, M	S=Maske	d Sand Gr	ains	<sup>2</sup> Location: PL=P	ore Lining, M=Matrix.
Hydric Soil		orction, reiv	T TCCCCCC Wattix, W	O Maske	a cana ci	airio.		s for Problematic Hydric Soils <sup>3</sup> :
Histosol			Dark Surface	e (S7)				Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be	. ,	ace (S8) <b>(I</b>	/ILRA 147,		t Prairie Redox (A16)
Black Hi	stic (A3)		Thin Dark Su	urface (S9	) (MLRA	147, 148)		LRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		(F2)			mont Floodplain Soils (F19)
	Layers (A5)		Depleted Ma	, ,	==:		-	LRA 136, 147)
	ick (A10) <b>(LRR N)</b> d Below Dark Surfac	o (Λ11)	Redox Dark Depleted Da		•			Shallow Dark Surface (TF12) r (Explain in Remarks)
	ark Surface (A12)	C (A11)	Redox Depre				Other	(Explain in Remarks)
	lucky Mineral (S1) (	LRR N,	Iron-Mangan			LRR N,		
	\ 147, 148)		MLRA 13		, ,			
	leyed Matrix (S4)		Umbric Surfa					ors of hydrophytic vegetation and
	edox (S5)		Piedmont Flo					d hydrology must be present,
	Matrix (S6)	_	Red Parent I	Material (I	-21) <b>(ML</b> R	A 127, 147	7) unless	disturbed or problematic.
	_ayer (if observed)	:						
Type:	- L \.		<del></del>				United Call Bas	esent? Yes No <u>^</u>
Depth (inc	cnes):						Hydric Soil Pre	esent? Yes No
Remarks:	a indicators of	ماراها دام	ail wara mraaam	+ a+ +b a	time of	tha aite	viole	
IN(	o indicators of	nyaric s	soil were presen	it at the	time of	the site	e visit.	

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: LGEKU Glend	ale	City/	County: Glendale/Hard	in S	ampling Date: 2022-03-10
Applicant/Owner: LG&E-KU		-			Sampling Point: SP-17
Investigator(s):Burns & McDe	onnell (SB & Ck	() Sect			. •
Landform (hillslope, terrace, et					Slope (%): 4
Subregion (LRR or MLRA): N	•			• •	Datum: WGS 84
Soil Map Unit Name: Melvin				NWI classificati	
Are climatic / hydrologic condit		nical for this time of year?			
Are Vegetation, Soil					
Are Vegetation, Soil					
				xplain any answers	mportant features, etc.
SUMINIARY OF FINDING	35 – Allach S	site map snowing sai		ns, transects, i	important reatures, etc.
Hydrophytic Vegetation Prese		<u> No</u>	Is the Sampled Area		
Hydric Soil Present?	Yes	No	within a Wetland?	Yes 🗸	No
Wetland Hydrology Present? Remarks:	Yes	<u> No</u>			
Wetland (W)-8 is a palustring According to the Anteceder	_				
HYDROLOGY					
Wetland Hydrology Indicate	ors:			Secondary Indicator	rs (minimum of two required)
Primary Indicators (minimum	of one is required			Surface Soil Cr	
Surface Water (A1)		True Aquatic Plants			ated Concave Surface (B8)
High Water Table (A2)		Hydrogen Sulfide Oo		Drainage Patte	
Saturation (A3) Water Marks (B1)		Presence of Reduce		Moss Trim Line Dry-Season Wa	
Sediment Deposits (B2)		Recent Iron Reducti		Crayfish Burrov	
Drift Deposits (B3)		Thin Muck Surface (			ole on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Other (Explain in Re	· •		ssed Plants (D1)
Iron Deposits (B5)				✓ Geomorphic Po	osition (D2)
Inundation Visible on Aer				Shallow Aquita	rd (D3)
Water-Stained Leaves (E	9)			Microtopograph	
Aquatic Fauna (B13)			<b>T</b>	FAC-Neutral Te	est (D5)
Field Observations:	Voc. No.	Depth (inches):			
Surface Water Present? Water Table Present?		Depth (inches): 1			
Saturation Present?		Depth (inches): 0	Wetland H	ydrology Present?	Yes No
(includes capillary fringe)  Describe Recorded Data (stre					103
Describe Recorded Data (site	eam gauge, monit	oring well, aerial priotos, pr	evious inspections), ii avai	lable.	
Remarks:					
Three primary indicate	ors and three	secondary indicator	s confirmed wetlan	d hydrology.	

# $Attachment \ 3 \ to \ Response \ to \ Wade \ Family \ Farm-PH-1 \ Question \ No. \ 5$ Page 160 of 191 McFarland

EGETATION (Four Strata) – Use scientific n			La dia atau	I Danis Tari madala					
ree Stratum (Plot size: 30 ft r )	Absolute % Cover	Dominant Species?		Dominance Test workshe					
				Number of Dominant Speci	^				
				That Are OBL, FACW, or F.	AC: <u>3</u> (A)				
				Total Number of Dominant	2				
				Species Across All Strata:	<u>3</u> (B)				
				Percent of Dominant Specie	es				
				That Are OBL, FACW, or F					
				Prevalence Index worksh					
		= Total Cov	er	Total % Cover of:					
50% of total cover:	20% of	total cover:		OBL species					
apling/Shrub Stratum (Plot size: 15 ft r )				FACW species	_ x 2 =				
				FAC species	_ x 3 =				
				FACU species	_ x 4 =				
				UPL species	_ x 5 =				
		-		Column Totals:					
					\				
-		-		Prevalence Index = E	3/A =				
				Hydrophytic Vegetation In	ndicators:				
				1 - Rapid Test for Hydr	ophytic Vegetation				
				✓ 2 - Dominance Test is	>50%				
				3 - Prevalence Index is	s ≤3.0 <sup>1</sup>				
		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supporting					
50% of total cover:	20% of	total cover:			on a separate sheet)				
lerb Stratum (Plot size: 5 ft r )				Problematic Hydrophyt					
Carex sp.	30		FACW	Problematic Hydrophyt	ic vegetation (Explain)				
Panicum virgatum	25	~	FAC	1					
Scirpus atrovirens	20	~	OBL	Indicators of hydric soil and be present, unless disturbe					
Ludwigia alternifolia	15		FACW		•				
Poa pratensis	5		FACU	Definitions of Four Veget	ation Strata:				
	_			Tree - Woody plants, exclu	iding vines, 3 in. (7.6 cm) o				
·				more in diameter at breast	height (DBH), regardless o				
				height.					
				Sapling/Shrub – Woody pl	ants, excluding vines, less				
•				than 3 in. DBH and greater	than or equal to 3.28 ft (1				
0				m) tall.					
1				Herb – All herbaceous (nor	n-woody) plants, regardless				
		= Total Cov		of size, and woody plants le	ess than 3.28 ft tall.				
50% of total cover: <u>47.5</u>	20% of	total cover:	19.0	Woody vine – All woody vi	nes greater than 3 28 ft in				
Voody Vine Stratum (Plot size: 30 ft r )				height.	noo grouter triair 0.20 It III				
-									
				Hydrophytic Vegetation					
`-				Present? Yes	No				
50% of total cover:		= Total Cov							
50% of total cover:		iolai cover							
Remarks: (Include photo numbers here or on a separate s	sneet.)								
ne Dominance Test confirmed hydrophytic	vegetat	ion. Care	ex sp. co	ould not be identified to	0				

SOIL Sampling Point: SP-17

Profile Desc	ription: (Describe	to the de	pth needed to docur	nent the	indicator	or confirn	the absence of indicators.)	<u> </u>
Depth	Matrix			x Feature			•	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remark	(S
0 - 2	10YR 6/2	98	10YR 5/8	2	С	PL / M	Silty Clay Loan	
2 - 16	2.5Y 6/1	90	10YR 6/8	10	С	PL / M	Silty Clay Loan	
16 - 20	2.5Y 6/1	50	7.5YR 5/6	10	С	PL / M	Clay Loam	
16 - 20	5Y 2.5/1	40					Silty Clay Loan	
						·		
	-			-	-	·		
					-			-
<sup>1</sup> Type: C=Co	oncentration, D=De	pletion, RN	1=Reduced Matrix, M	S=Maske	d Sand Gr	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Matr	rix.
Hydric Soil I		•	,				Indicators for Problematic	
Histosol	(A1)		Dark Surface	(S7)			2 cm Muck (A10) (MLR)	A 147)
	pipedon (A2)		Polyvalue Be	low Surfa	ace (S8) <b>(I</b>	/ILRA 147,	148) Coast Prairie Redox (A1	16)
Black Hi			Thin Dark Su			147, 148)	(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		(F2)		Piedmont Floodplain So	ils (F19)
	Layers (A5)		<u>✓</u> Depleted Ma		<b>-</b> 0)		(MLRA 136, 147)	(TE40)
	ick (A10) <b>(LRR N)</b> d Below Dark Surfac	co (Λ11)	Redox Dark	•	,		Very Shallow Dark Surfa Other (Explain in Remain	
	ark Surface (A12)	Se (ATT)	Redox Depre				Other (Explain in Itemal	183)
	lucky Mineral (S1)	LRR N.	Iron-Mangan		•	LRR N.		
	A 147, 148)	,	MLRA 13		, , ,	,		
Sandy G	Sleyed Matrix (S4)		Umbric Surfa	ce (F13)	(MLRA 13	36, 122)	<sup>3</sup> Indicators of hydrophytic v	vegetation and
. —	ledox (S5)		Piedmont Flo					
	Matrix (S6)		Red Parent N	Material (F	F21) <b>(MLR</b>	A 127, 14	unless disturbed or proble	ematic.
	_ayer (if observed)	):						
Type:								
Depth (inc	ches):						Hydric Soil Present? Yes	No
Remarks:								
De	epleted Matrix	(F3) co	nfirmed hydric s	oil.				

## WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: LGEKU Glenda	ale		City/C	ounty: Glendale/Hardin	Sampling Date: 2022-03-10
Applicant/Owner: LG&E-KU					: Kentucky Sampling Point: SP-18
Investigator(s):Burns & McDo	nnell (SB &	CK)	Section		
					onvex Slope (%):_5
· ·				· · · · · · · · · · · · · · · · · · ·	115 Datum: WGS 84
				NV	
Are climatic / hydrologic condition					
					nstances" present? Yes No
				tic? (If needed, explain a	any answers in Remarks.) ransects, important features, etc.
20MINAL OF THE	15 - Aliau	11 2116 111	ap snowing sam	ipiling point locations, tr	ansecis, important reatures, etc.
Hydrophytic Vegetation Prese	1111:	es	No 🗸	Is the Sampled Area	
Hydric Soil Present?		es	No 🗸	within a Wetland?	Yes No
Wetland Hydrology Present?	ī	es <u>/</u>	No		
Remarks:					
SP-18 is located adjacent	t to W-8. FI	ooded co	onditions were obs	served at the time of the si	ite visit due to recent rainfall.
A	l t Dua ain	''-t'an Ta	· · · / A D.T.\ the ever		and the second state of the comment
According to the Anteced	dent Precip	itation ic	ool (APT), the area	was experiencing wet con	nditions at the time of the survey.
HYDROLOGY					
Wetland Hydrology Indicato	rs:			Second	dary Indicators (minimum of two required)
Primary Indicators (minimum o	of one is requ	ired; check	all that apply)		urface Soil Cracks (B6)
Surface Water (A1)			True Aquatic Plants (I		parsely Vegetated Concave Surface (B8)
High Water Table (A2)			Hydrogen Sulfide Odd		rainage Patterns (B10)
Saturation (A3)				- · · · ·	oss Trim Lines (B16)
Water Marks (B1)			Presence of Reduced		ry-Season Water Table (C2)
Sediment Deposits (B2)			Recent Iron Reduction		rayfish Burrows (C8)
Drift Deposits (B3)			Thin Muck Surface (C		aturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		— '	Other (Explain in Ren	·	cunted or Stressed Plants (D1)
Iron Deposits (B5)					eomorphic Position (D2)
Inundation Visible on Aeri		.7)			nallow Aquitard (D3)
Water-Stained Leaves (B	9)				icrotopographic Relief (D4)
Aquatic Fauna (B13) Field Observations:				F <i>P</i>	AC-Neutral Test (D5)
Surface Water Present?	Vec	No V	Depth (inches):		
Water Table Present?			Depth (inches): 14	<del></del>	
Saturation Present?			Depth (inches): 10	Wetland Hydrolo	ogy Present? Yes V No
(includes capillary fringe)					ngy F1636iii. 163 110
Describe Recorded Data (stre	am gauge, m	onitoring w	ell, aerial photos, pre	vious inspections), if available:	
Remarks:					
One primary indicator	confirmed	wetland	1 hydrology.		
One pinnary maioaco.		Welland	iliyalology.		

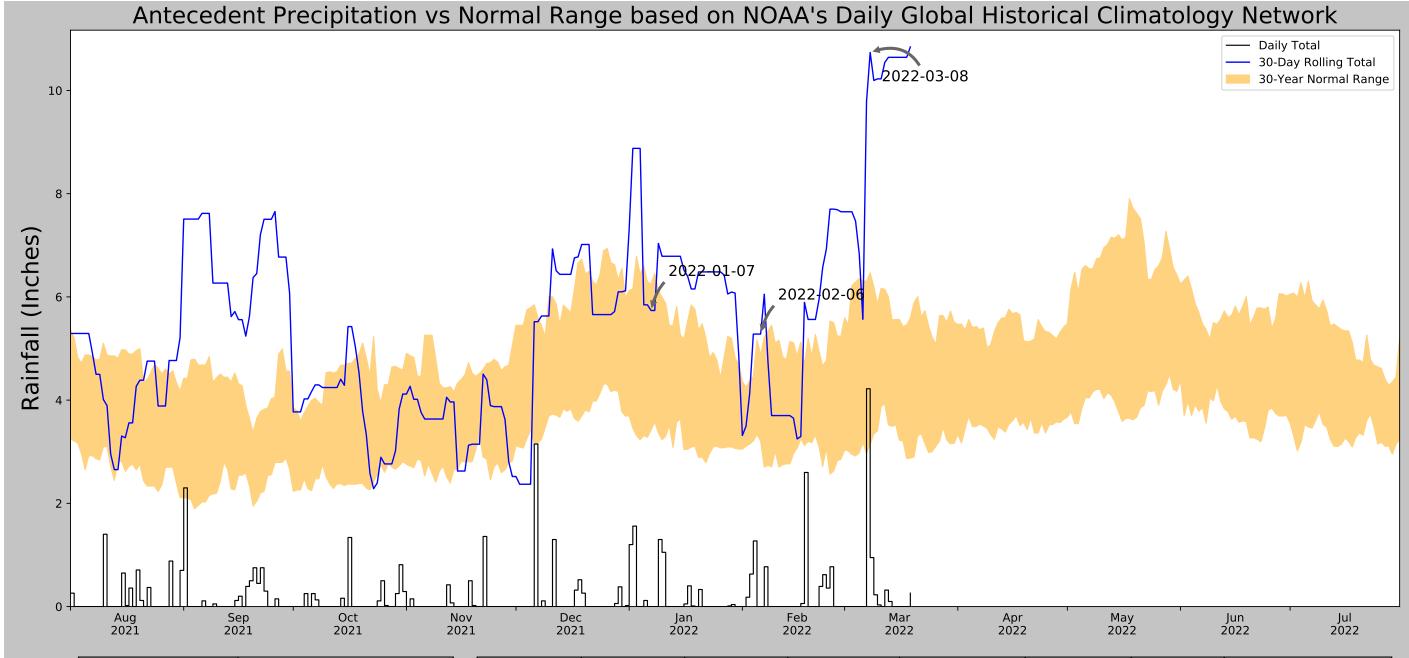
### Attachment 3 to Response to Wade Family Farm-PH-1 Question No. 5 Page 163 of 191 McFarland

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

/EGETATION (Four Strata) – Use scientific na	Sampling Point: SP-18			
	Absolute	Dominant	Indicator	Dominance Test worksheet:
	% Cover			Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
1				That Ale OBE, I AOW, OI I AO.
2				Total Number of Dominant
3				Species Across All Strata: 3 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0 (A/
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
50% of total cover:		= Total Cov		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 ft r )	20% 01	total cover		FACW species x 2 =
				FAC species x 3 =
1				FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: (A) (E
4				Column Totals (A) (E
5				Prevalence Index = B/A =
6			<u> </u>	Hydrophytic Vegetation Indicators:
7			. ——	1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 <sup>1</sup>
		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supporti
50% of total cover:	20% of	total cover	:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 ft r )	00		E4011	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. Poa pratensis	30		FACU	Troblemate Hydrophytic Vogetation (Explain)
2. Sonchus oleraceus	10		UPL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
3. Trifolium campestre	10		UPL	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5			<u> </u>	
6			<u> </u>	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) more in diameter at breast height (DBH), regardless
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				<b>Herb</b> – All herbaceous (non-woody) plants, regardles
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 25.0	20% of	total cover	10.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft r )				height.
1				· ·
2				
3				
4				Hydrophytic
5			<u> </u>	Vegetation
		= Total Cov	er -	Present? Yes No
50% of total cover:	20% of	total cover	:	
Remarks: (Include photo numbers here or on a separate sl	neet.)			
50% of total cover:  Remarks: (Include photo numbers here or on a separate si  No indicators of hydrophytic vegetation were	20% of neet.)	total cover	<u>:</u>	

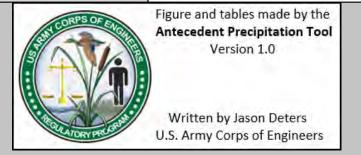
SOIL Sampling Point: SP-18

Profile Desc	ription: (Describe	to the de	pth needed to docur	ment the	indicator	or confirm	the absence of	indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 5	2.5Y 5/3	100					Silty Clay Loan	
5 - 12	2.5Y 5/3	98	10YR 5/8	2	С	М	Silty Clay Loan	
12 - 20	2.5Y 5/3	95	10YR 5/8	5	С	PL / M	Silty Clay Loan	
		_						
		_						
								_
				'				
¹Type: C=Co	oncentration, D=Dep	letion, RM	1=Reduced Matrix, M	S=Maske	d Sand Gr	ains.	<sup>2</sup> Location: PL=P	Pore Lining, M=Matrix.
Hydric Soil I		,	, , , , , , , , , , , , , , , , , , , ,					rs for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Dark Surface	e (S7)			2 cm	Muck (A10) (MLRA 147)
Histic Ep	pipedon (A2)		Polyvalue Be	elow Surfa	ace (S8) <b>(I</b>	/ILRA 147,	148) Coas	st Prairie Redox (A16)
Black Hi	stic (A3)		Thin Dark Su	ırface (S9	) <b>(MLRA</b>	147, 148)		ILRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		(F2)			mont Floodplain Soils (F19)
	Layers (A5)		Depleted Ma	. ,			•	ILRA 136, 147)
	ck (A10) (LRR N)	(4.44)	Redox Dark		•			Shallow Dark Surface (TF12)
	d Below Dark Surfac	e (A11)	Depleted Da				Otne	er (Explain in Remarks)
	ark Surface (A12) lucky Mineral (S1) <b>(</b> l	I PP N	Redox Depre Iron-Mangan			IPPN		
	147, 148)	LIXIX IV,	MLRA 13		100 (1 12) (	LIXIX IV,		
	lleyed Matrix (S4)		Umbric Surfa	-	(MLRA 13	86, 122)	<sup>3</sup> Indicat	tors of hydrophytic vegetation and
	edox (S5)		Piedmont Flo					nd hydrology must be present,
	Matrix (S6)		Red Parent I	-		-		s disturbed or problematic.
Restrictive I	ayer (if observed)							
Type:								
Depth (inc	ches):						Hydric Soil Pre	esent? Yes No 🗸
Remarks:								
No	o indicators of	hydric s	soil were presen	t at the	time of	the site	visit.	



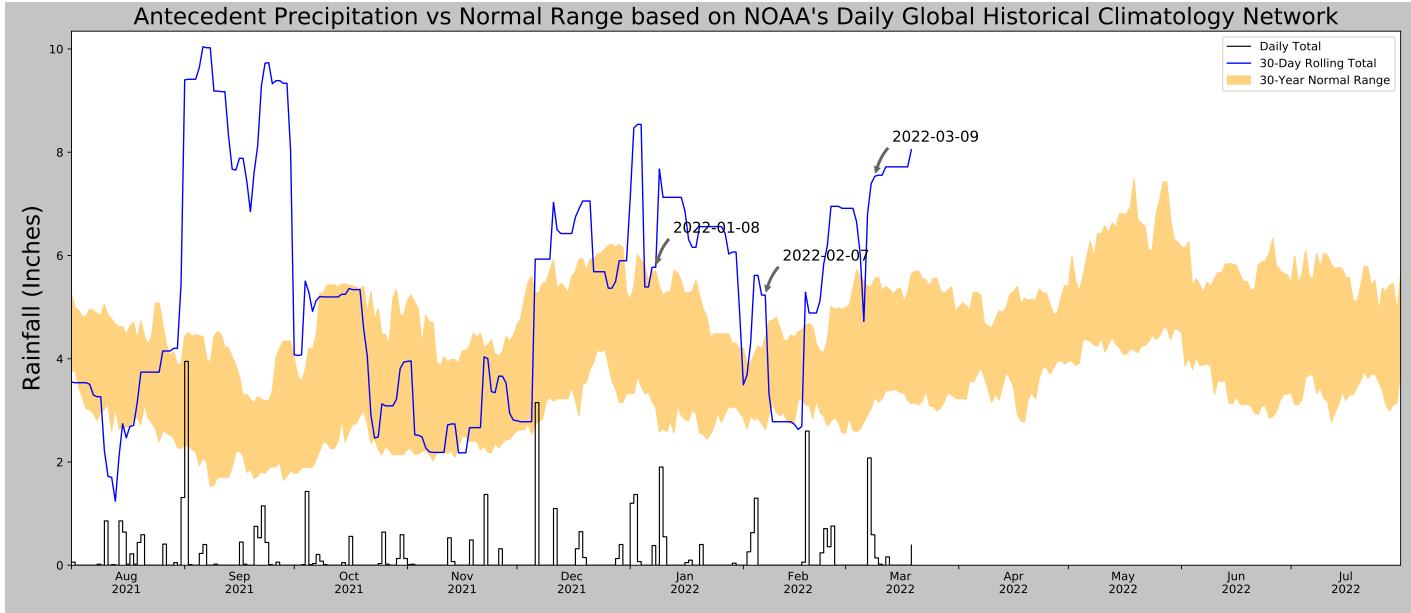
Coordinates	37.599659, -85.879601
Observation Date	2022-03-08
Elevation (ft)	738.25
Drought Index (PDSI)	Severe wetness (2022-02)
WebWIMP H <sub>2</sub> O Balance	Wet Season

30 Days Ending	30 <sup>th</sup> %ile (in)	70 <sup>th</sup> %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-03-08	3.148032	6.466142	10.736221	Wet	3	3	9
2022-02-06	3.206693	4.879921	5.279528	Wet	3	2	6
2022-01-07	3.420866	6.251969	5.736221	Normal	2	1	2
Result							Wetter than Normal - 17

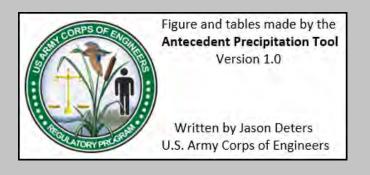


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
NOLIN RVR LAKE	37.2814, -86.2497	623.032	29.929	115.218	16.917	11188	63
BEE SPRING 4.3 NE	37.3305, -86.2267	583.005	3.62	40.027	1.774	0	21
LEITCHFIELD 2 N	37.5108, -86.2892	620.079	15.998	2.953	7.246	165	0
MILLERSTOWN 4E	37.4336, -86.0089	600.066	16.896	22.966	7.991	0	6



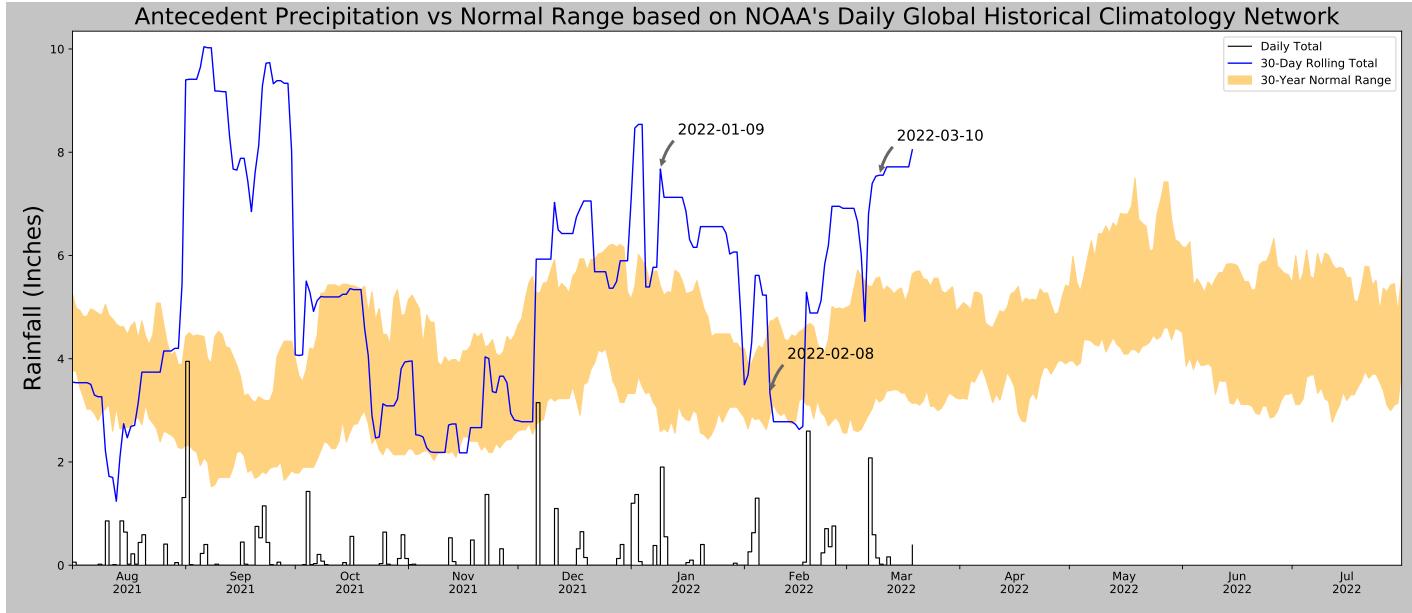


Coordinates	37.599659, -85.879601
Observation Date	2022-03-09
Elevation (ft)	738.25
Drought Index (PDSI)	Severe wetness (2022-02)
WebWIMP H <sub>2</sub> O Balance	Wet Season

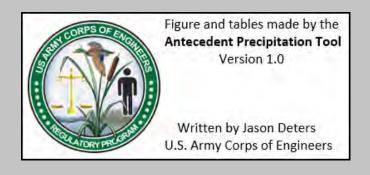


	30 Days Ending	30 <sup>th</sup> %ile (in)	70 <sup>th</sup> %ile (in)	Obse	erved (in)	Wetr	ness Condition	Condition Va	alue  Mo	nth Weig	ght	Product
	2022-03-09	3.254331	5.55315	-	7.535433		Wet		3		3	9
	2022-02-07	2.629528	4.409055		5.232284	Wet			3		2	6
Weather Station Name		Coord	Coordinates		n (ft)   Distance (mi)		Elevation Δ	Weighte	ed Δ   C	Days Normal	Days Antecedent	
		RINEYVILLE 1 S	37.735, -8	5.9696	742.1	126	10.568	3.876	4.	797	164	0
	ļ	RVINGTON 9.8 S	37.7385, -8	6.2581	807.0	087	22.815	68.837	11.	837	894	0
	GRE	ENSBURG 3.5 W	37.262, -8	5.5576	743	.11	29.264	4.86	13.	311	571	0
	BE	E SPRING 4.3 NE	37.3305, -8		583.0	005	26.612	155.245	16.	107	28	82
	RI	NEYVILLE 2.0 SE	37.7242, -8	5.9536	821	.85	9.509	83.6	5.	074	6	0
	ELIZABE <sup>-</sup>	THTOWN 0.7 NW	37.71,	-85.88	784.1	121	7.624	45.871	3.	781	285	0
		RADCLIFF 1.4 S	37.8068, -8	5.9524	752.9	953	14.855	14.703	6.	903	113	0
	ELIZABET	HTOWN 7.9 ENE	37.7518, -8	5.7413	789.0	)42	12.95	50.792	6.	485	510	8
	R	ADCLIFF 1.2 SSE	37.8089, -	85.932	775.9	919	14.738	37.669	7.	187	164	0
	RIN	NEVYILLE 2.0 NW	37.7731, -	85.992	753.9	937	13.468	15.687	6.	272	59	0
	MA	AGNOLIA .7 NNW	37.4528, -	85.749	854.0	003	12.417	115.753	7.	025	22	0
	E	BUFFALO 0.8 ESE	37.5078, -8	5.6858	829.0	068	12.368	90.818	6.	689	243	0
	ELIZABE	ETHTOWN 1.8 SE	37.687, -	85.845	714.8	395	6.325	23.355	2.	994	1922	0
	HOD	OGENVILLE 1.1 N	37.5844, -8	5.7389	769.0	)29	7.775	30.779	3.	738	23	0
	•	EKRON 2.6 ESE	37.9101, -8	6.1364	651.9	903	25.63	86.347	13.	747	29	0
	NE'	W HAVEN 6.4 NE	37.73278	5.5174	613.8	345	21.839	124.405	12.	544	1	0





Coordinates	37.599659, -85.879601
Observation Date	2022-03-10
Elevation (ft)	738.25
Drought Index (PDSI)	Severe wetness (2022-02)
WebWIMP H <sub>2</sub> O Balance	Wet Season



30 Days Ending 30 <sup>th</sup> %ile (in) 7		70 <sup>th</sup> %ile (in)	Observed (in)		Wetness Condition		Condition Va	alue   Month \	Month Weight		Product	
2022-03-10	3.158662	5.582284	7	7.555118		Wet		3	3		9	
2022-02-08	2.905512	4.726378	3	3.330709		Normal		2	2		4	
Weather Station Name		Coord	dinates Elevation		(ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal		Days Antecedent	
RINEYVILLE 1 S		37.735, -8	5.9696	742.1	.126 10.568		3.876	4.797	4.797		0	
	RVINGTON 9.8 S	37.7385, -8	6.2581	807.0	87	22.815	68.837	11.837		894	0	
GRE	ENSBURG 3.5 W	37.262, -8	5.5576	743.	.11	29.264	4.86	13.311		571	0	
BE	E SPRING 4.3 NE	37.3305, -8		583.0	05	26.612	155.245	16.107		28	81	
RINEYVILLE 2.0 SE		37.7242, -8	5.9536	821.	.85	9.509	83.6	5.074		6	0	
ELIZABETHTOWN 0.7 NW			, -85.88 784		.21	7.624	45.871	3.781		285	0	
	RADCLIFF 1.4 S	37.8068, -8	5.9524	752.9	953	14.855	14.703	6.903		113	0	
ELIZABET	HTOWN 7.9 ENE	37.7518, -8	5.7413	789.0	)42	12.95	50.792	6.485		510	9	
R.	ADCLIFF 1.2 SSE	37.8089, -	85.932	775.9	19	14.738	37.669	7.187		164	0	
RIN	NEVYILLE 2.0 NW	37.7731, -	85.992	753.9	37	13.468	15.687	6.272		59	0	
	AGNOLIA .7 NNW	37.4528, -		854.0	003	12.417	115.753	7.025		22	0	
В	BUFFALO 0.8 ESE	37.5078, -8	5.6858	829.0	)68	12.368	90.818	6.689		243	0	
ELIZABE	THTOWN 1.8 SE	37.687, -	85.845	714.8	395	6.325	23.355	2.994		1922	0	
HOD	OGENVILLE 1.1 N	37.5844, -8	5.7389	769.0	)29	7.775	30.779	3.738		23	0	
	EKRON 2.6 ESE	37.9101, -8	6.1364	651.9	03	25.63	86.347	13.747		29	0	
NE\	W HAVEN 6.4 NE	37.7327, -8	5.5174	613.8	345	21.839	124.405	12.544		1	0	

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APPENDIX C - PHOTOGRAPH LOG



Photograph C-1: View of Sample Plot (SP)-1, located in a test pit facing south.



Photograph C-2: View of SP-2, located in a test pit facing northeast.





Photograph C-3: View of SP-3, facing northwest towards farmed Wetland (W)-1.



Photograph C-4: View of SP-4, in upland, facing northwest.





Photograph C-5: View of SP-5, located in a test pit facing east.



Photograph C-6: View of SP-6, facing southeast towards PFO W-2.





Photograph C-7: View of SP-7, in upland, facing southeast.



Photograph C-8: View of SP-8, facing west towards PEM W-3.





Photograph C-9: View of SP-9, in upland, facing southwest.



Photograph C-10: View of SP-10, facing west towards PEM W-4.





Photograph C-11: View of SP-11, in upland, facing southeast.



Photograph C-12: View of SP-12, facing southwest towards PEM W-5.





Photograph C-13: View of SP-13, in upland, facing southwest.



Photograph C-14: View of SP-14, facing north towards farmed W-6.





Photograph C-15: View of SP-15, in upland, facing north.



Photograph C-16: View of SP-16, located in a test pit facing east.





Photograph C-17: View of PUB W-7, facing southeast.



Photograph C-18: View of SP-17, facing northeast towards PEM W-8.





Photograph C-19: View of SP-18, in upland, facing northeast.



Photograph C-20: View of ephemeral Stream (S)-1, facing south.





Photograph C-21: View of perennial S-2, facing east.



Photograph C-22: View of perennial S-3, facing southeast.





Photograph C-23: View of intermittent S-4, facing northeast.



Photograph C-24: View of intermittent S-5, facing northwest.





Photograph C-25: View of perennial S-6, facing east.



Photograph C-26: View of perennial S-7, facing west.



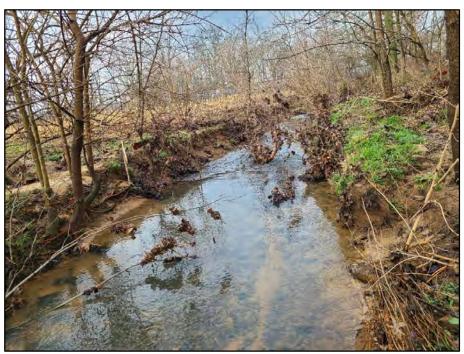


Photograph C-27: View of ephemeral S-8, facing northeast.



Photograph C-28: View of ephemeral S-9, facing southwest.





Photograph C-29: View of perennial S-10, facing west.



Photograph C-30: View of perennial S-11, facing west.





Photograph C-31: View of intermittent S-12, facing east.



Photograph C-32: View of ephemeral S-13, facing north.





Photograph C-33: View of perennial S-14, facing east.



Photograph C-34: View of intermittent S-15, facing south.





Photograph C-35: View of intermittent S-16, facing north.



Photograph C-36: View of ephemeral S-17, facing southwest.





Photograph C-37: View of intermittent S-18, facing southeast.



Photograph C-38: View of ephemeral S-19, facing west.





Photograph C-39: View of intermittent S-20, facing west.



Photograph C-40: View of ephemeral S-21, facing southwest.





Photograph C-41: View of ephemeral S-22, facing east.



Photograph C-42: View of intermittent S-23, facing west.





Photograph C-43: View of intermittent S-24, facing south.



Photograph C-44: View of intermittent S-25, facing east.

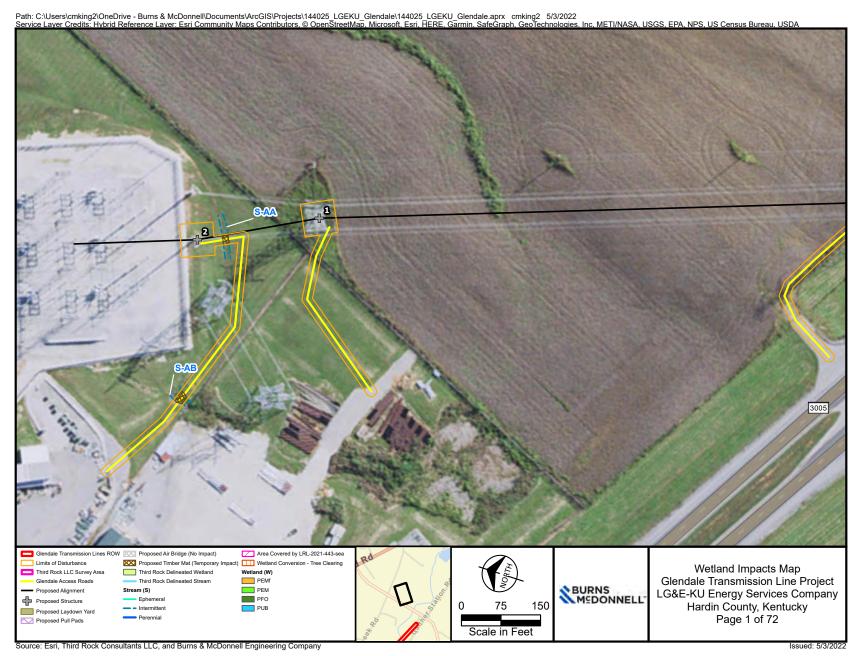


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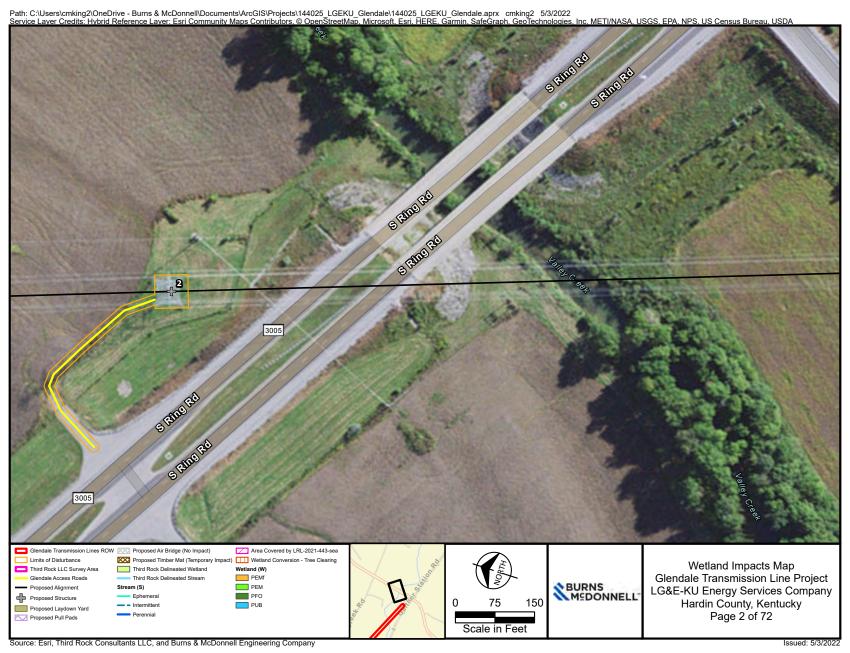


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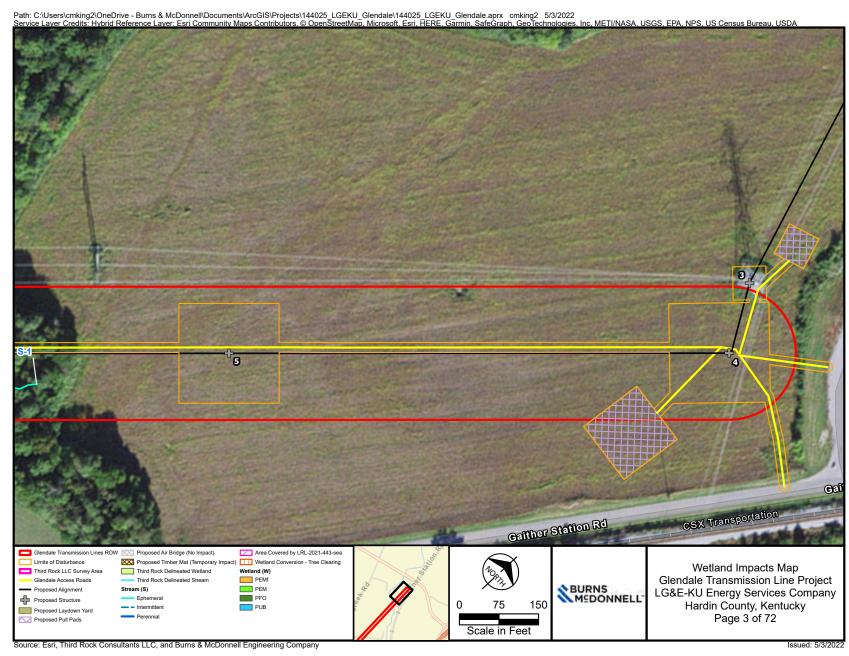
Burns & McDonnell 200 W. Adams; Suite 2700 Chicago, Illinois 60606 O 312-223-0920 F 312-223-9664 www.burnsmcd.com



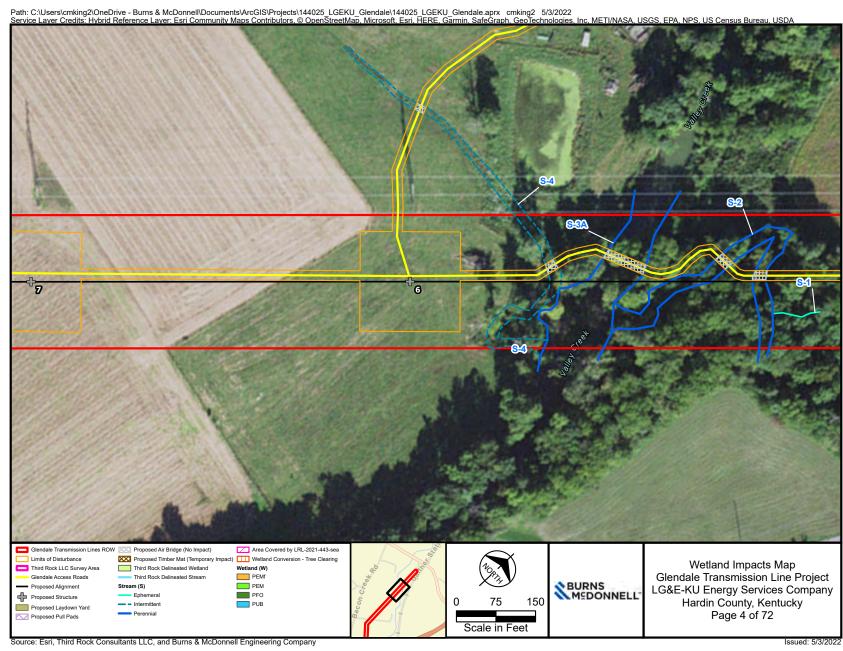
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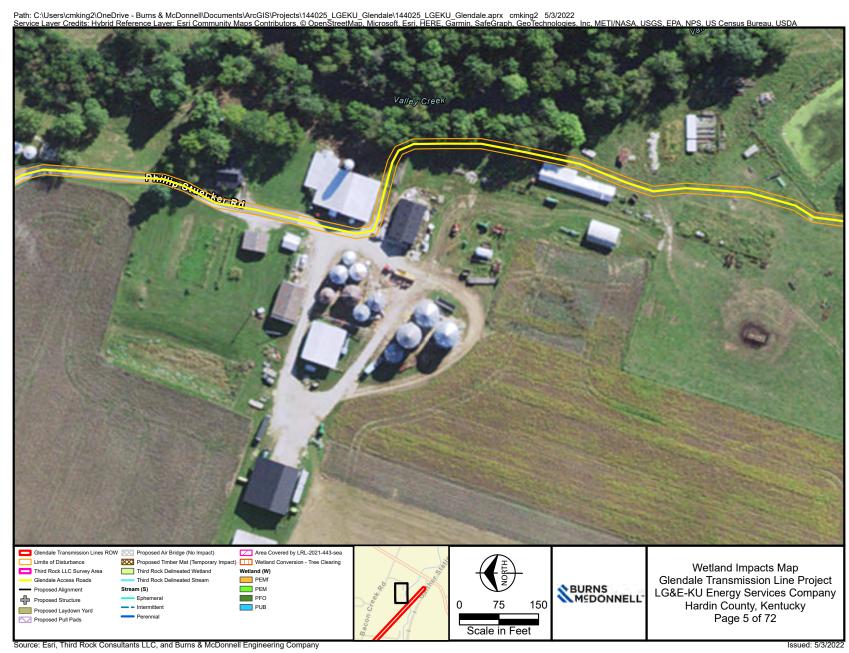
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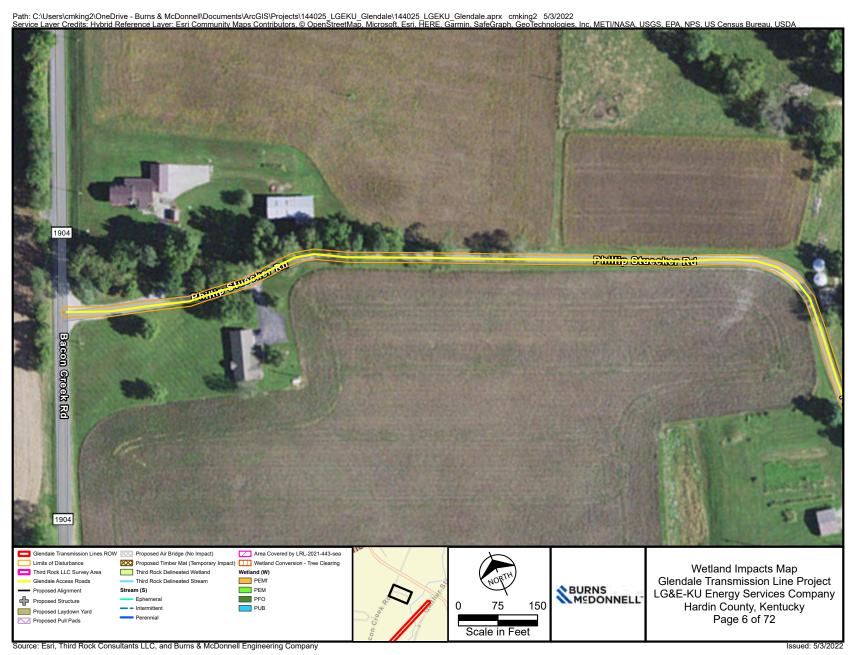


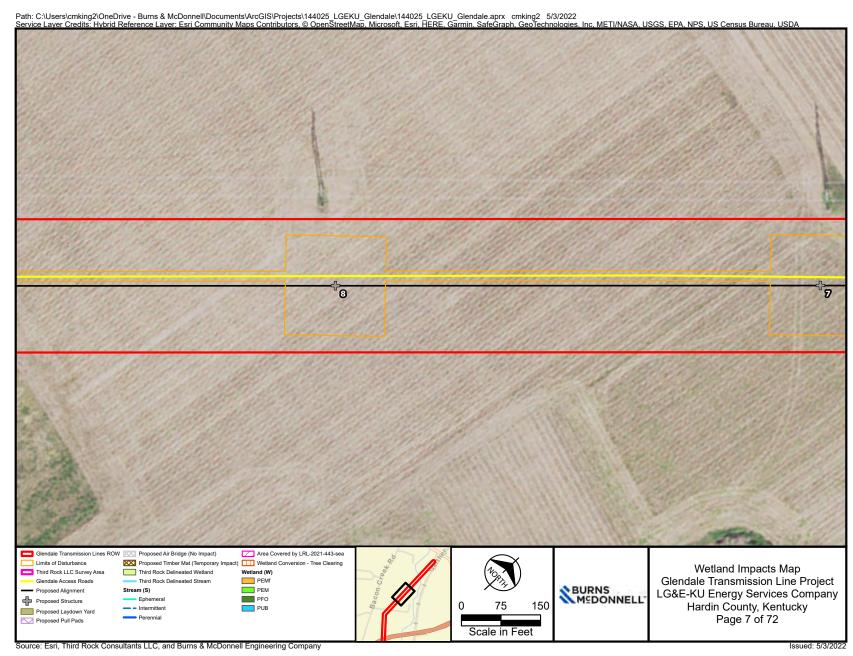
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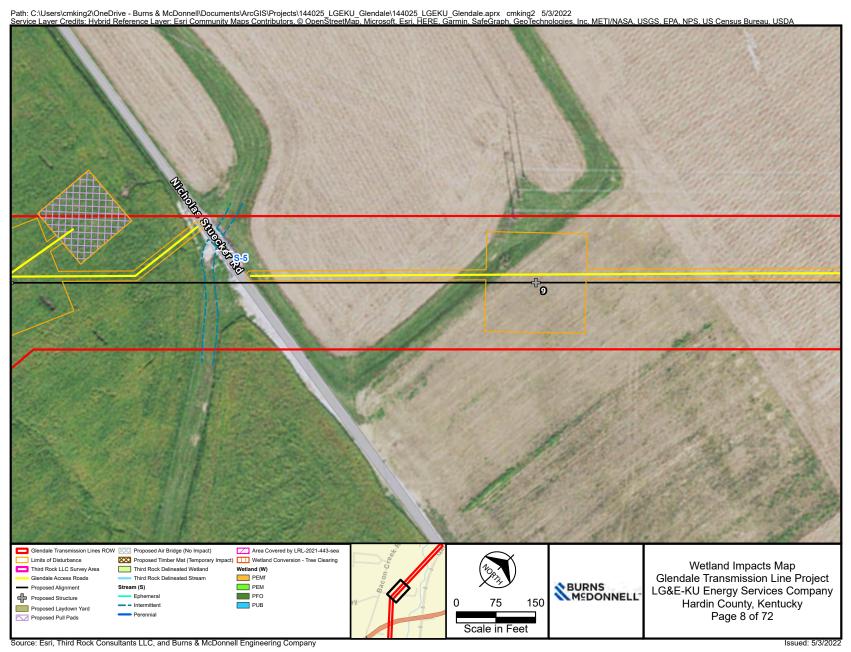
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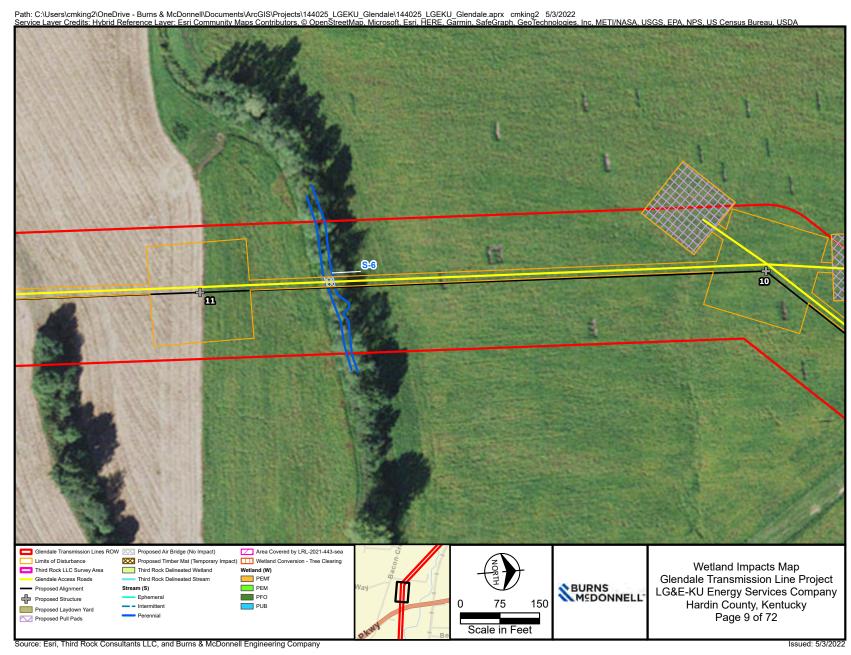




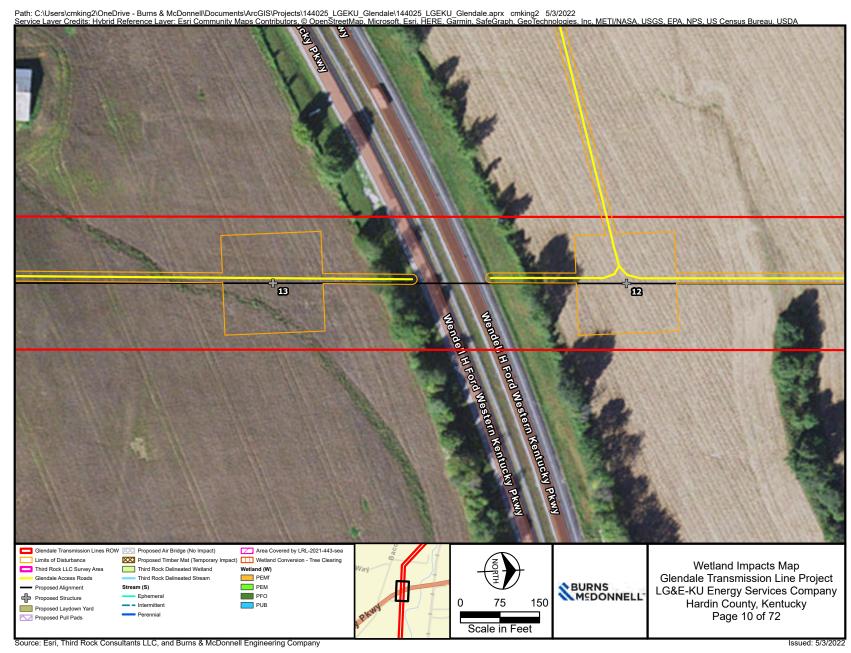
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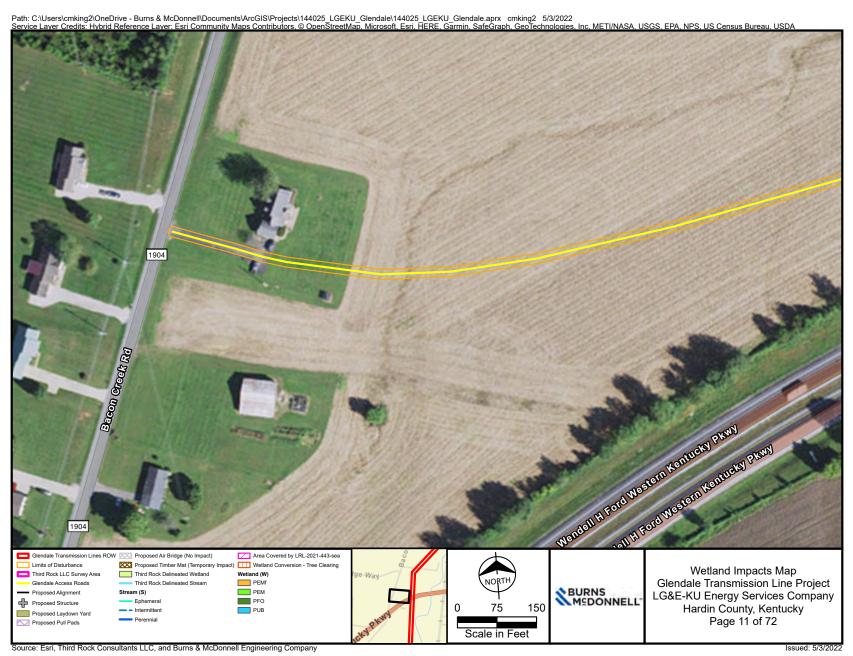
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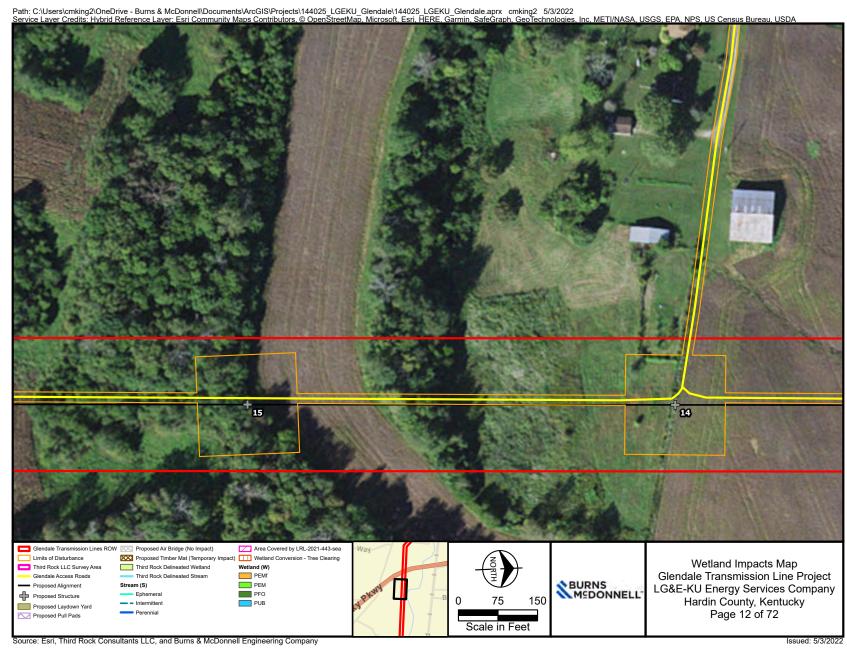
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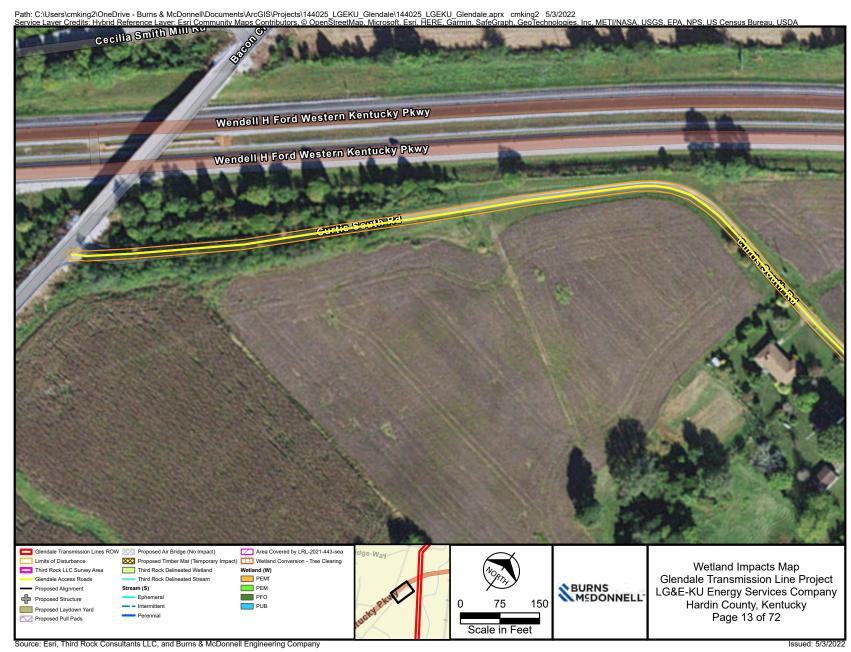


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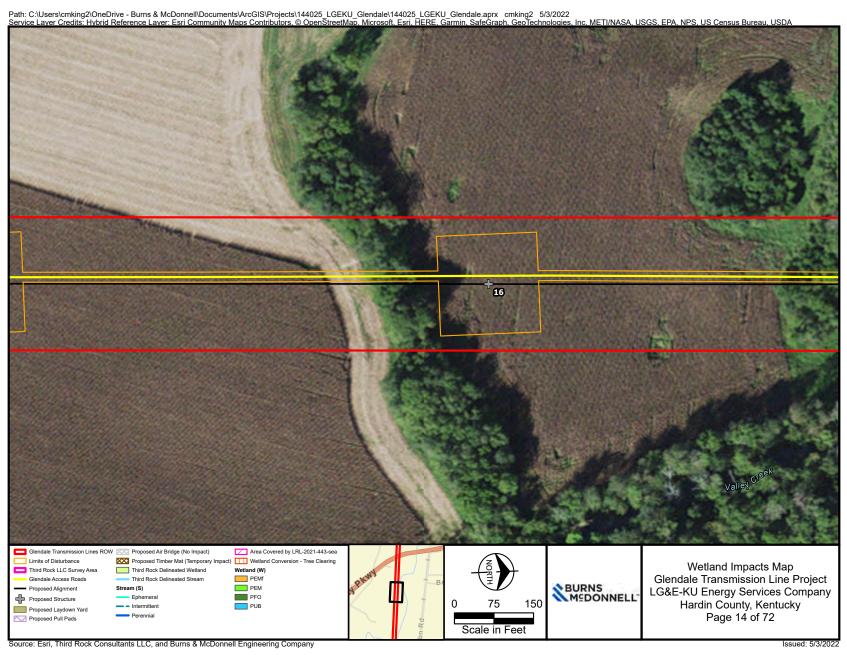


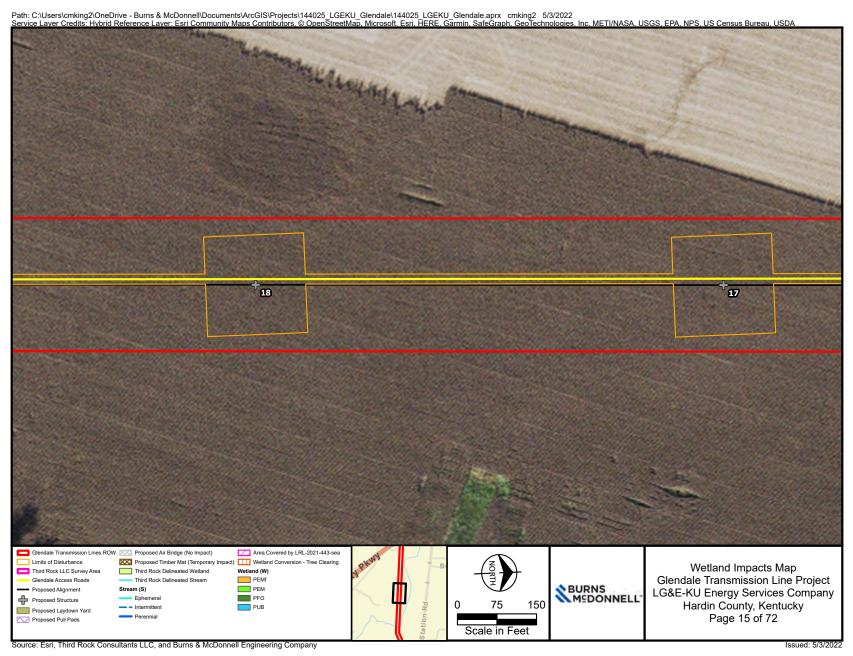
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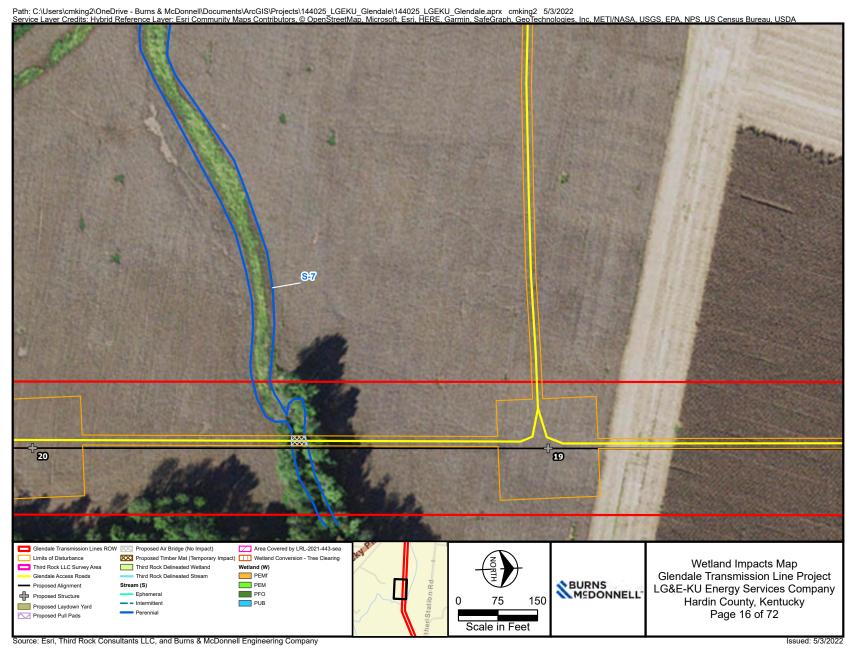


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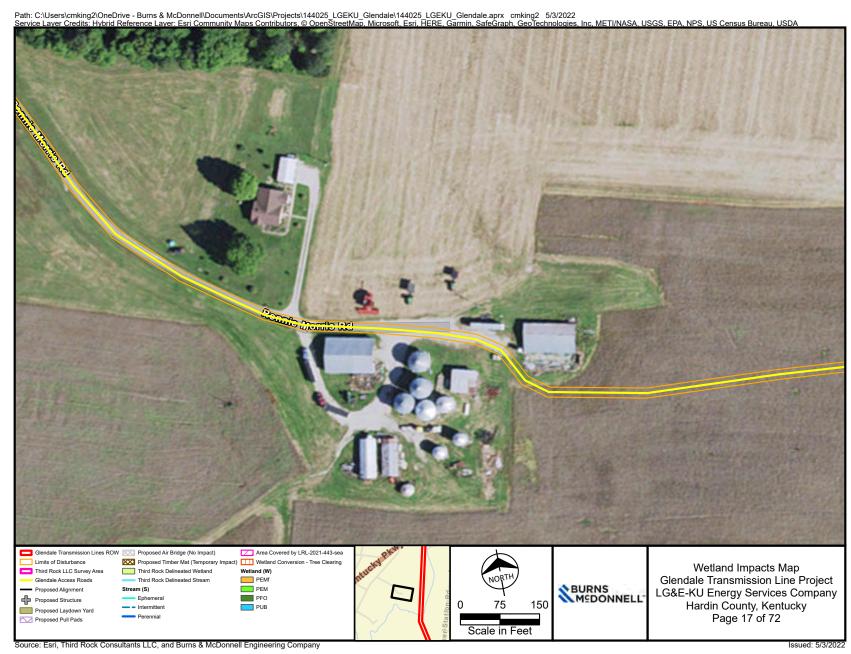


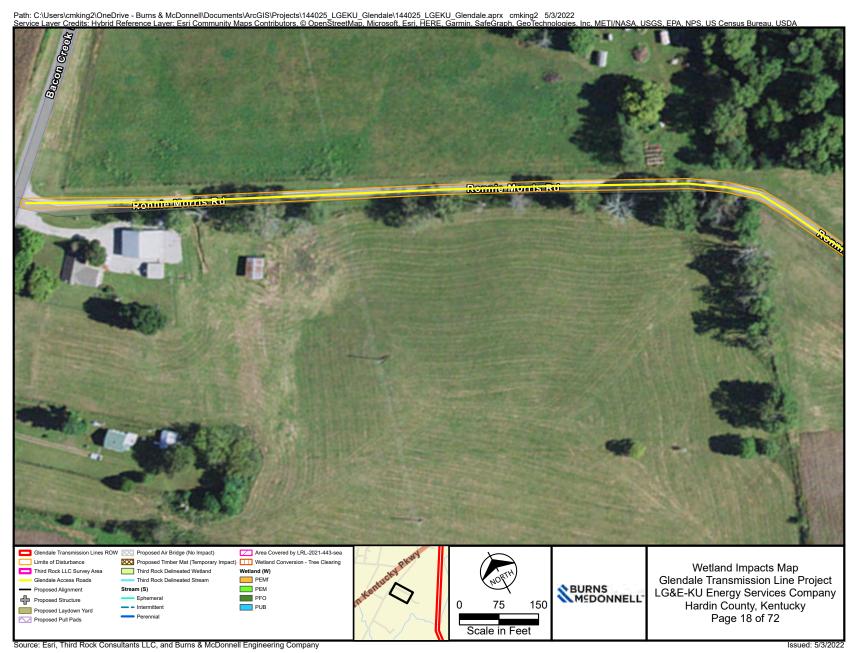


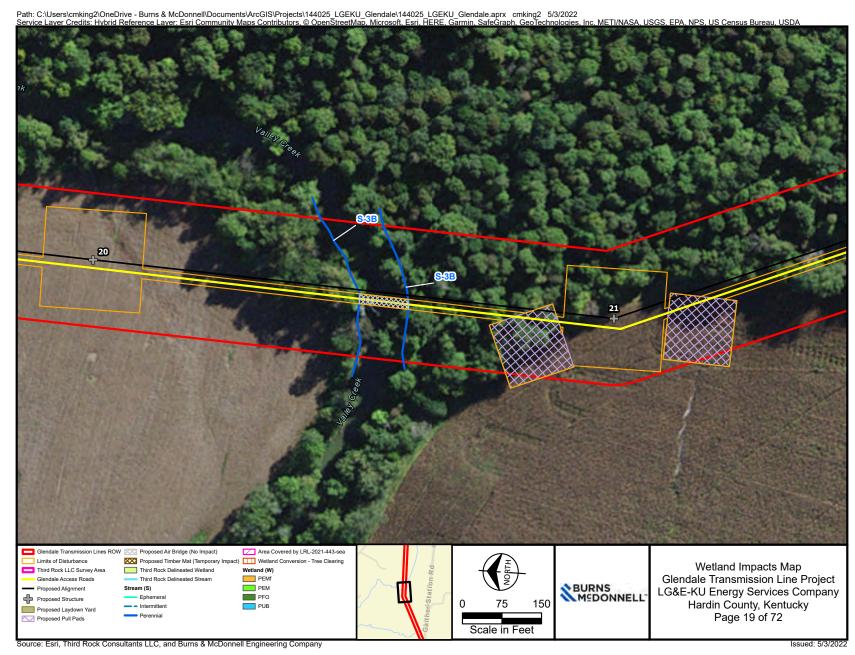
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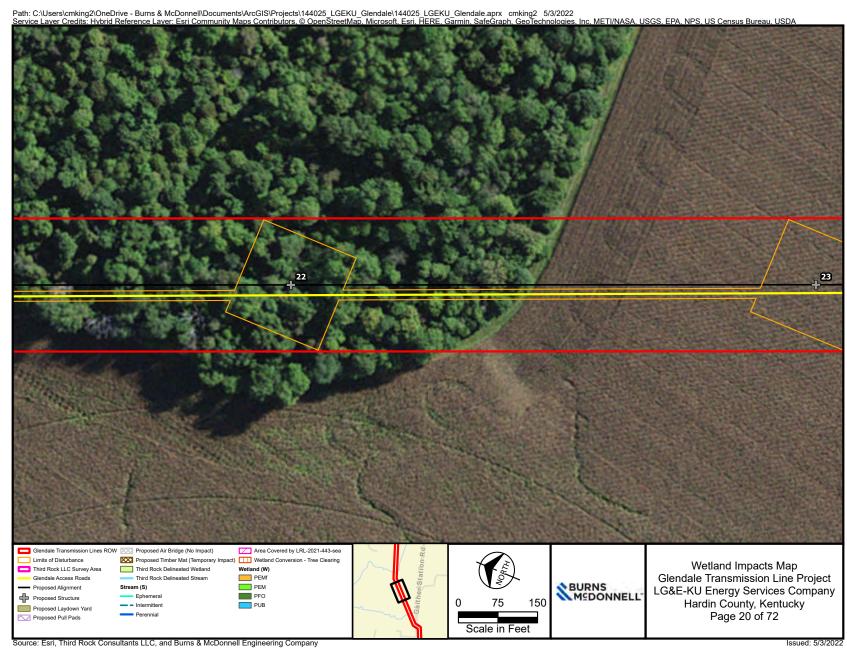
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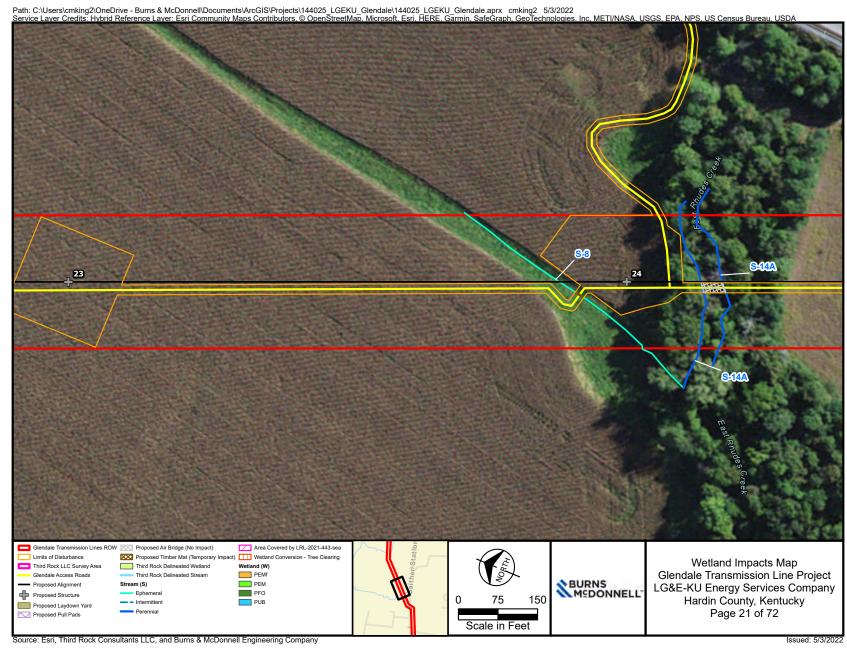




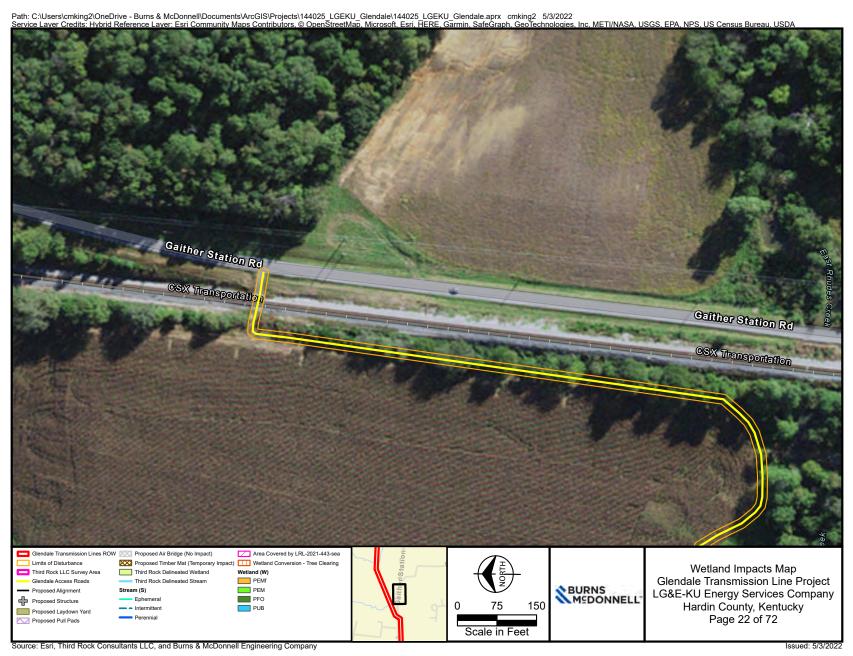
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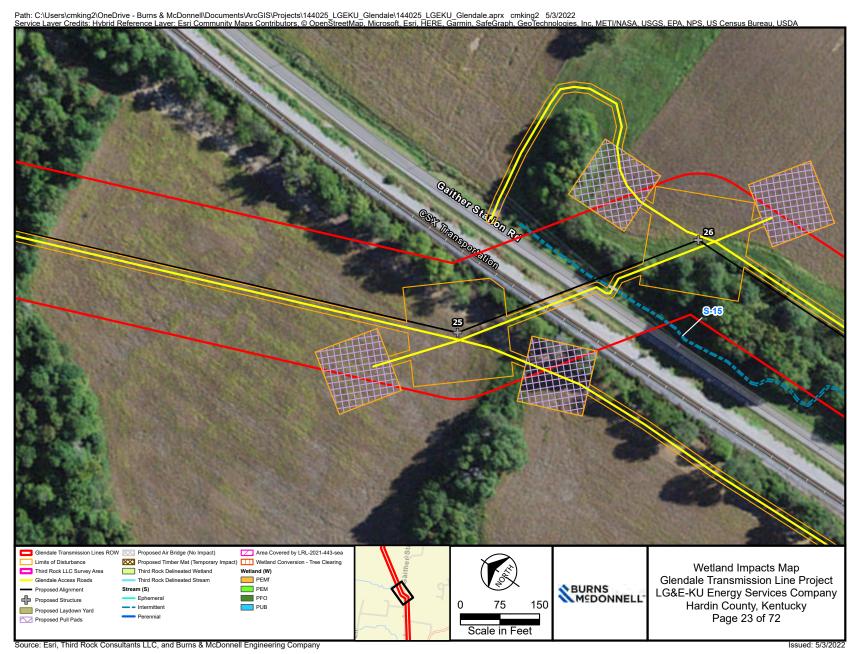


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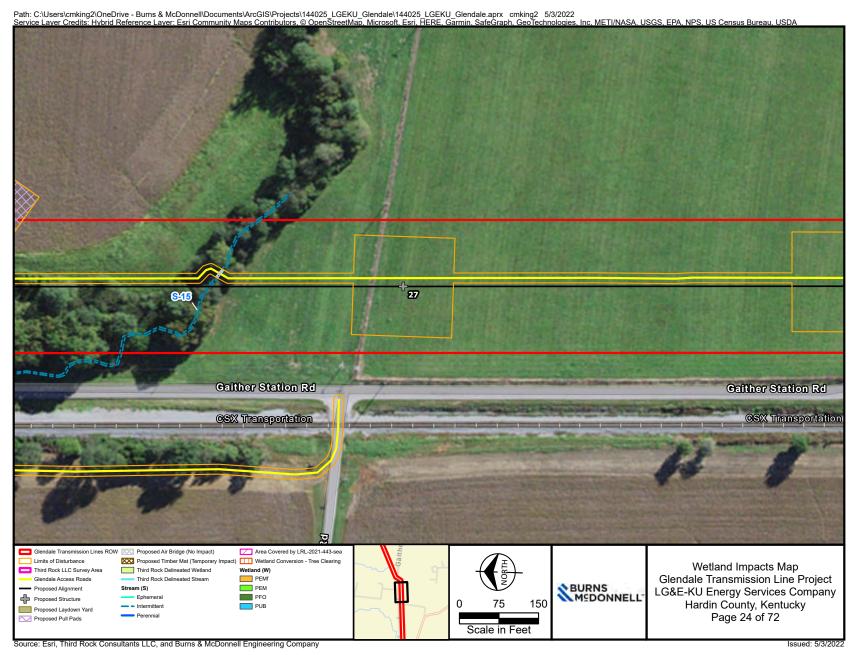


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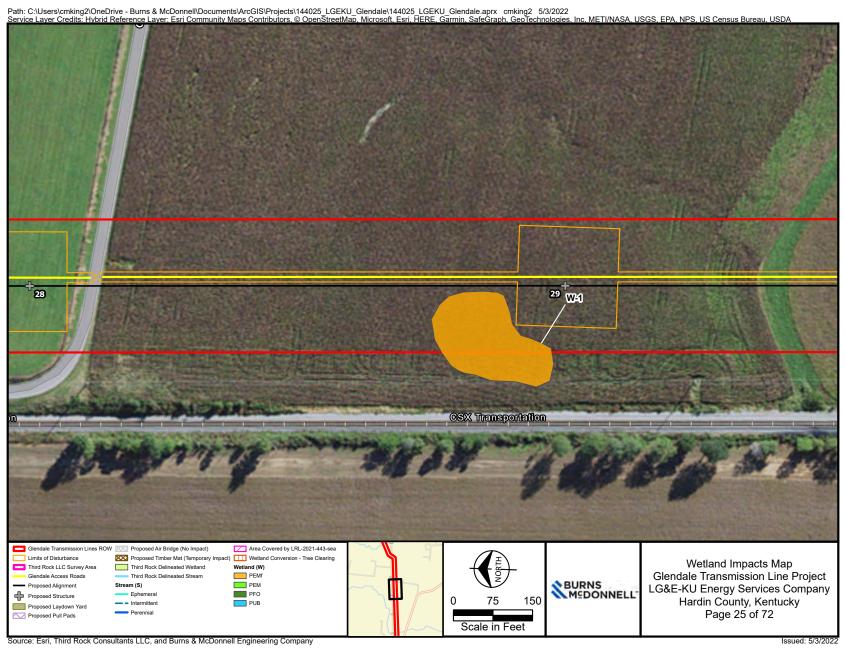




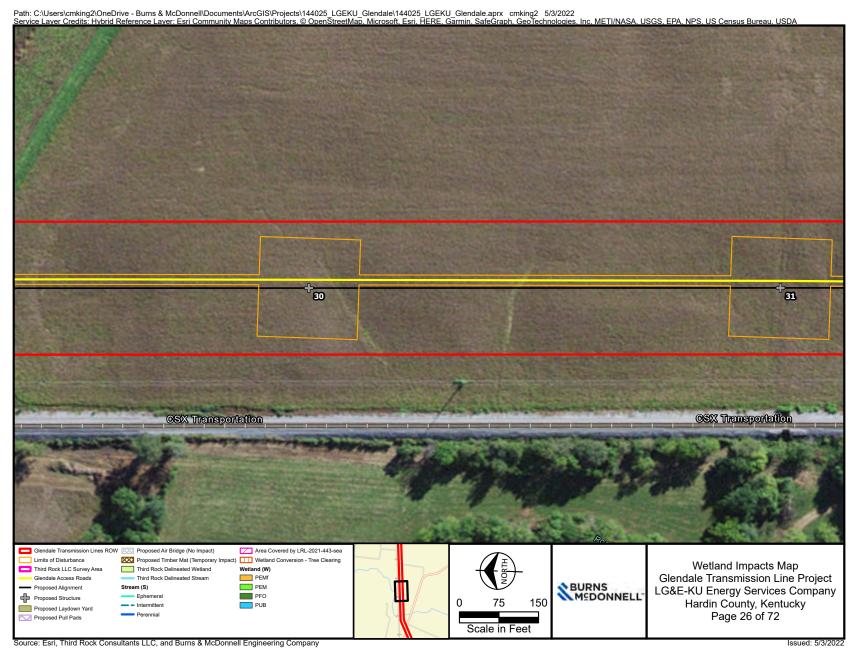
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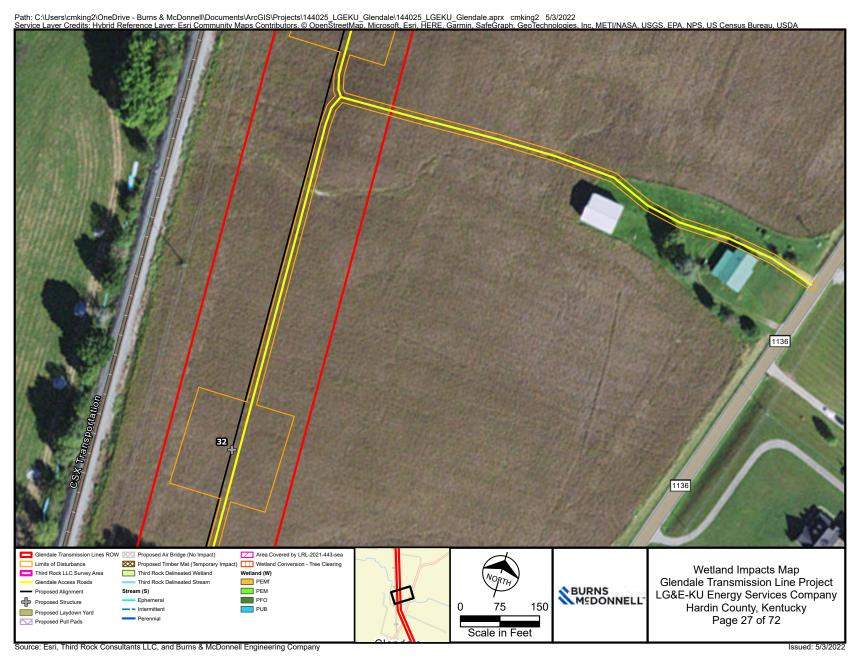
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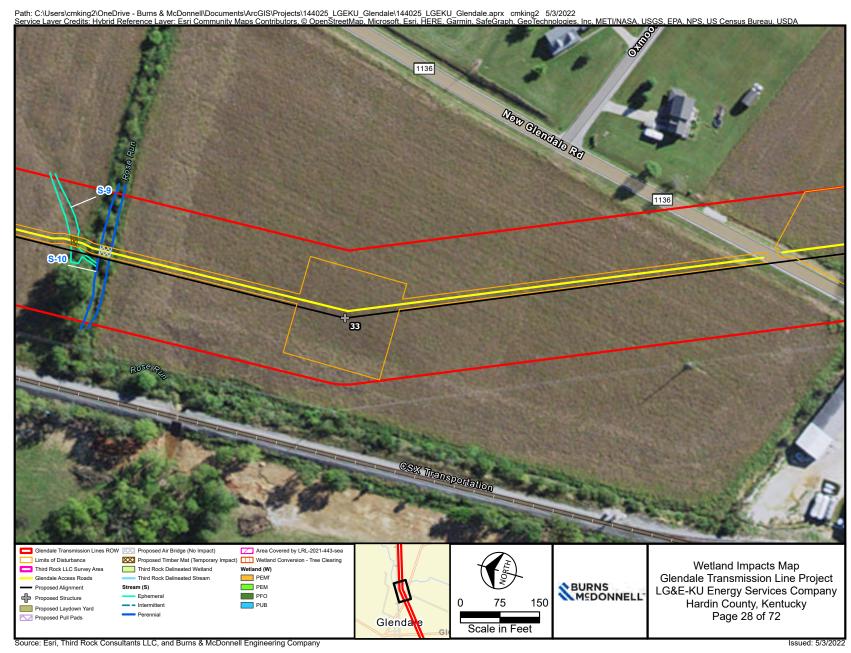
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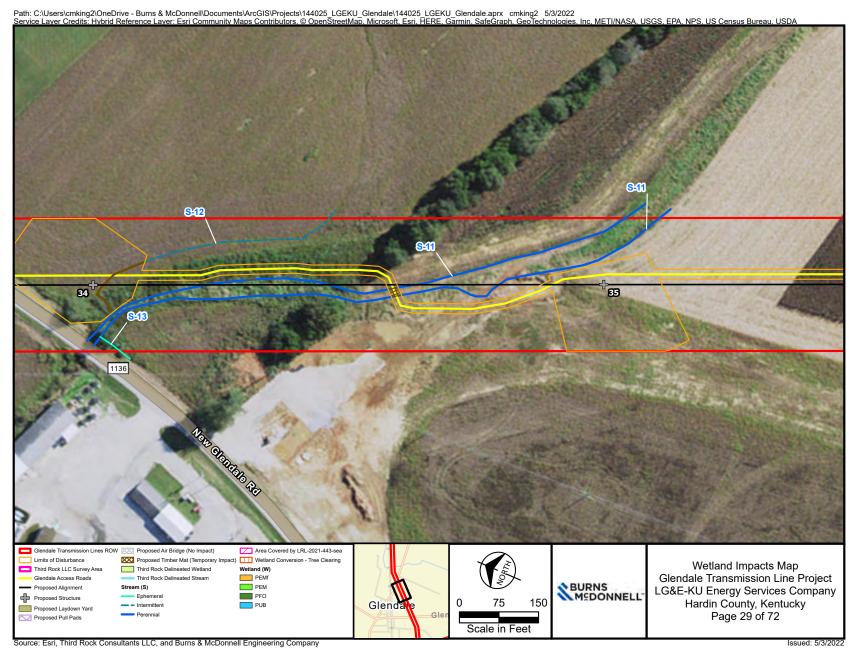
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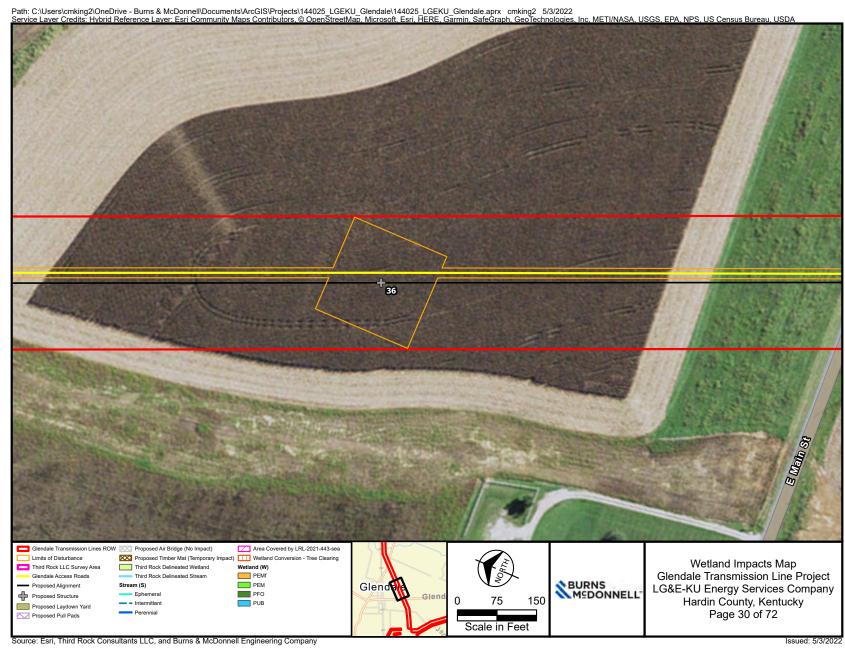
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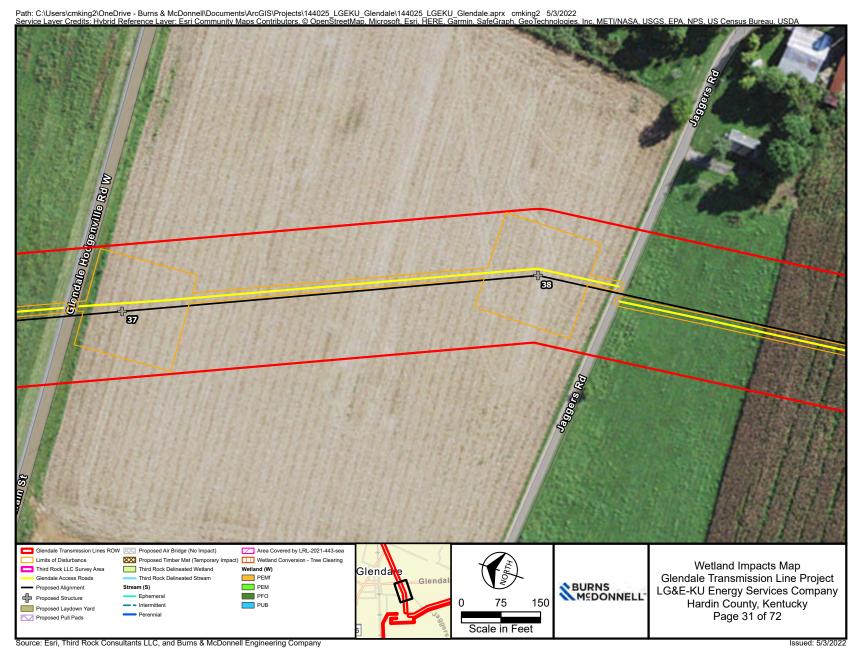
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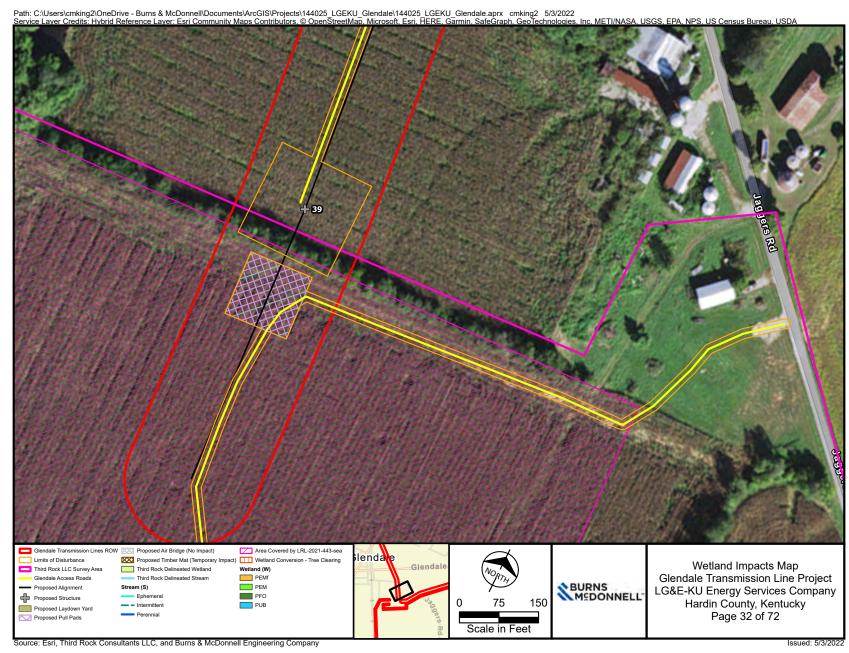
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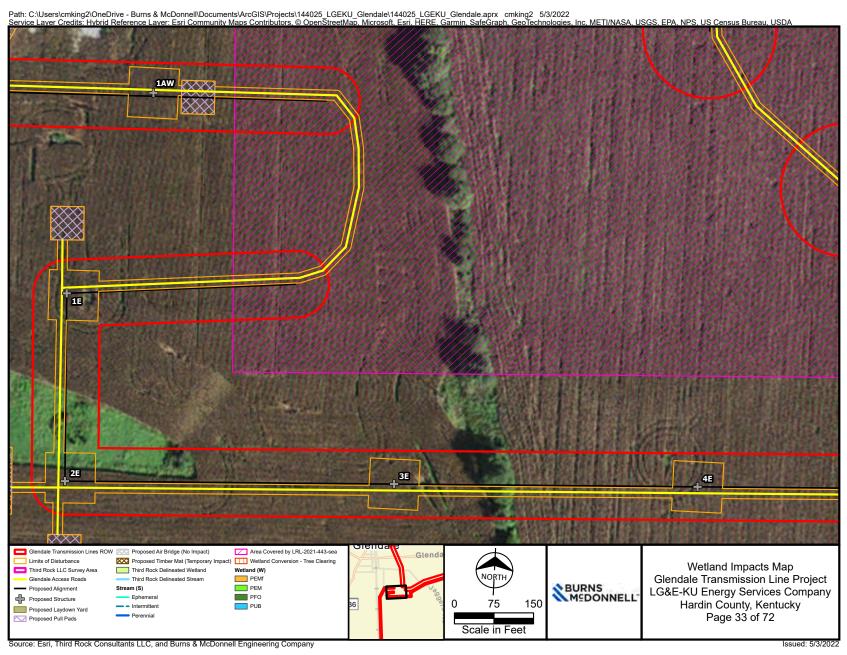
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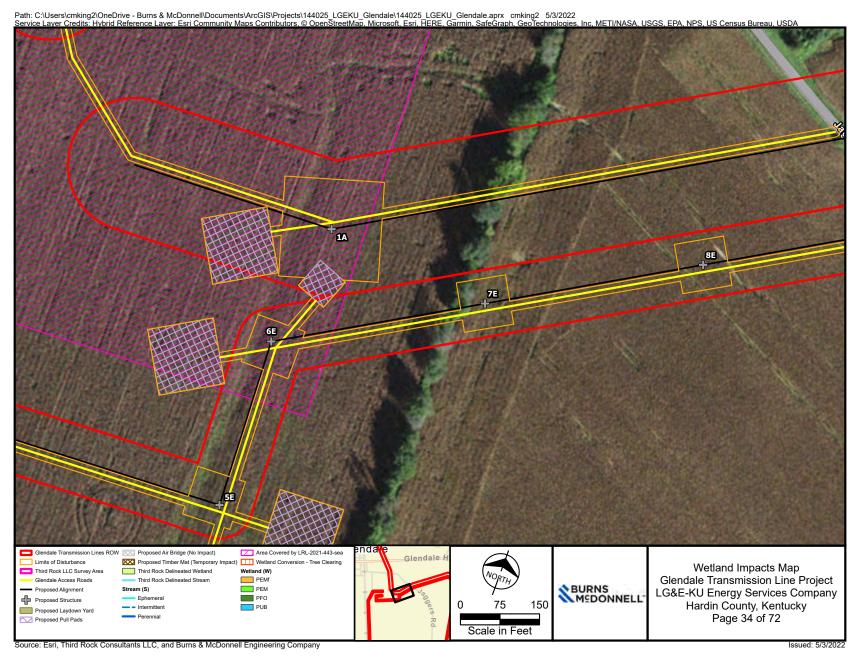
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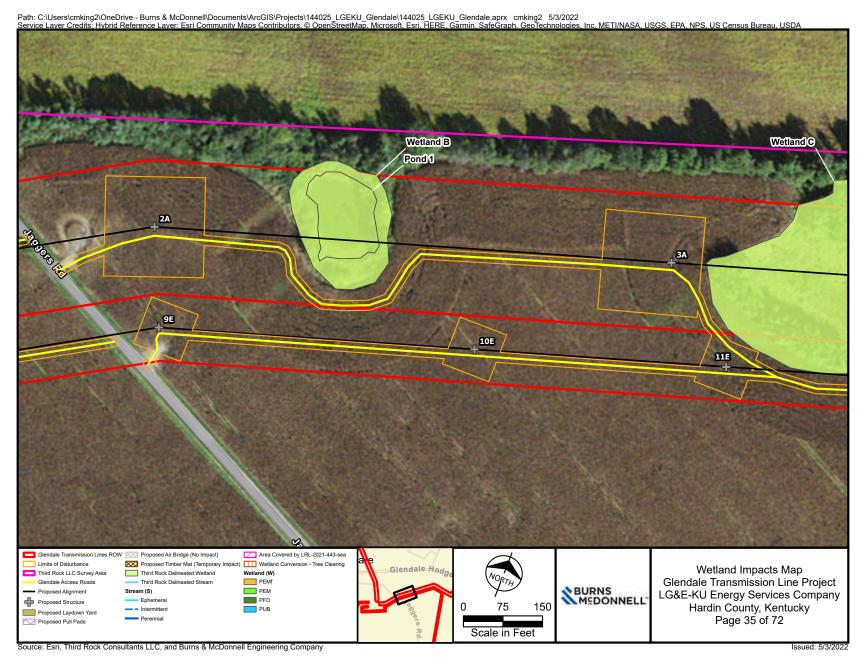
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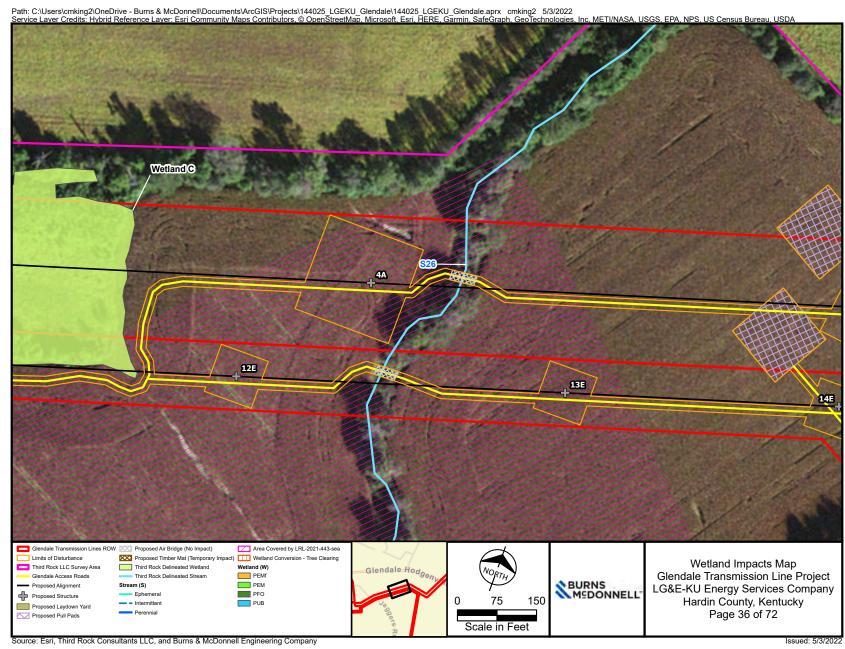
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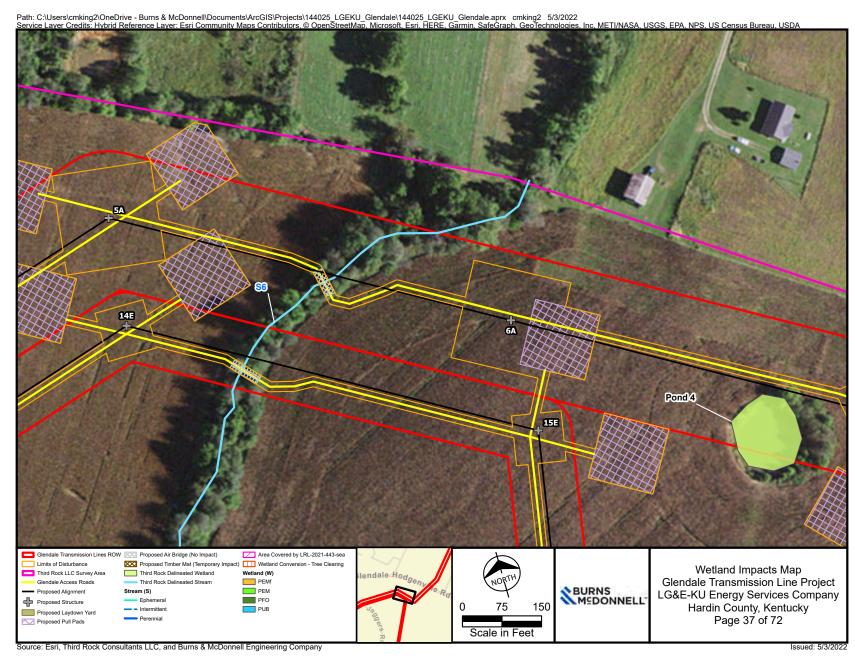
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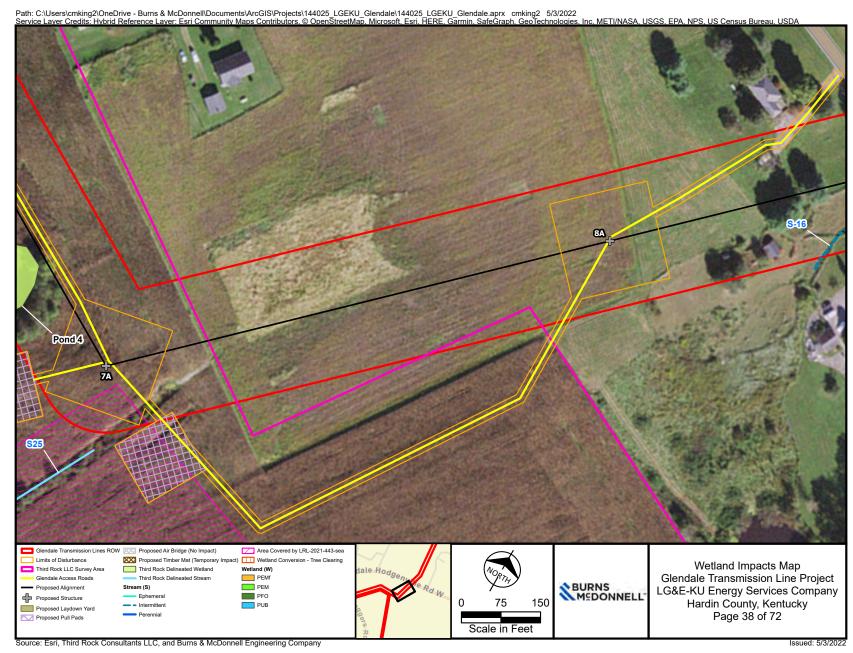
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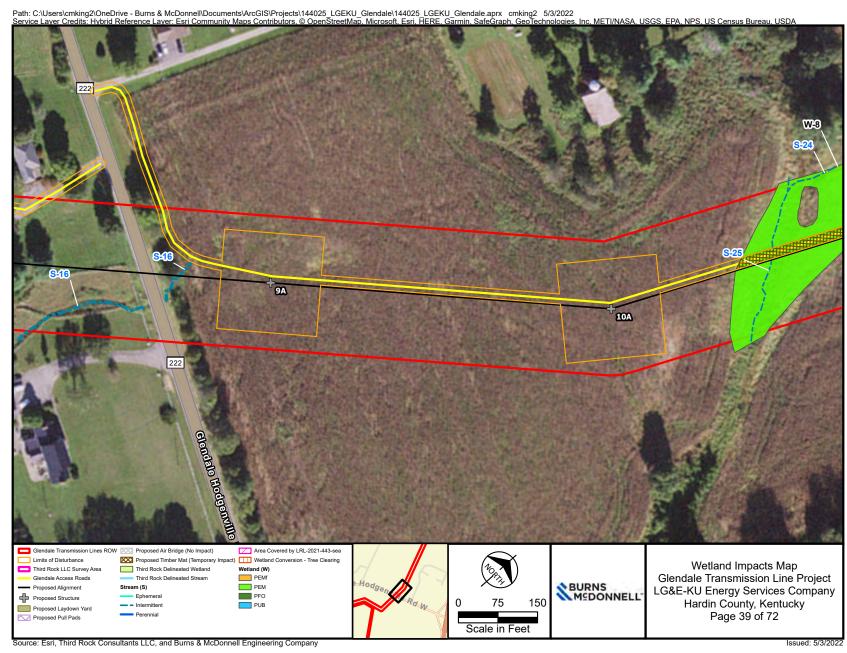
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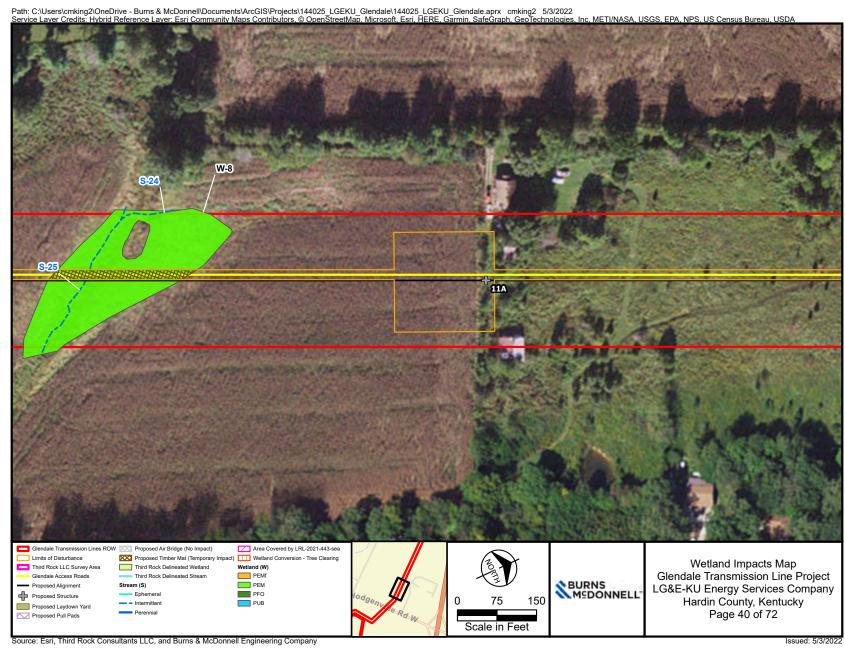
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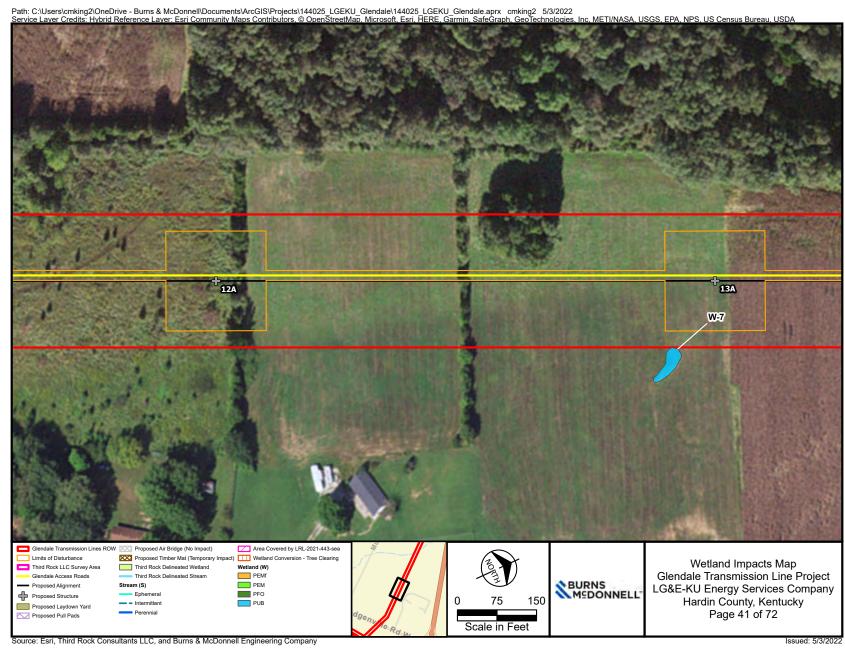
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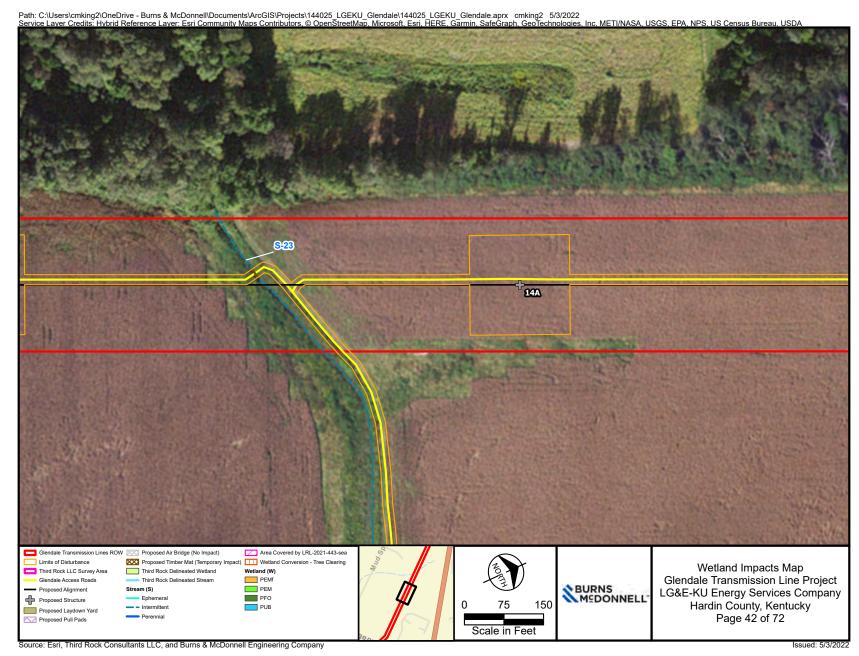
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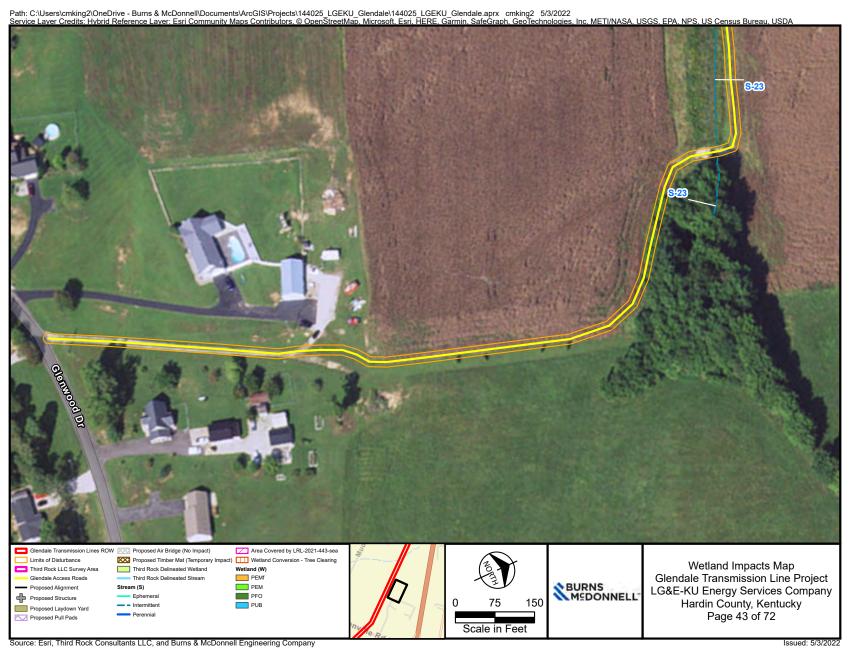


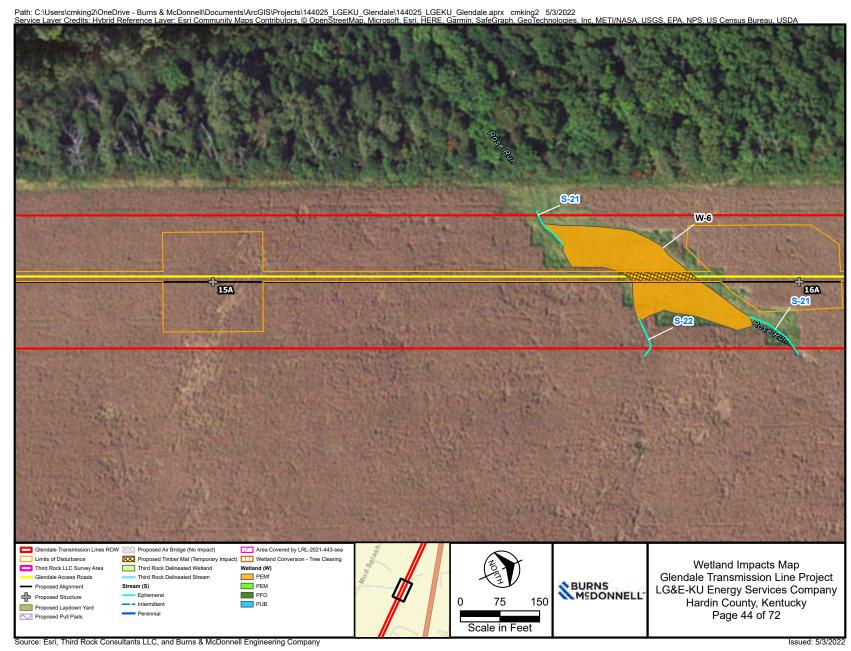
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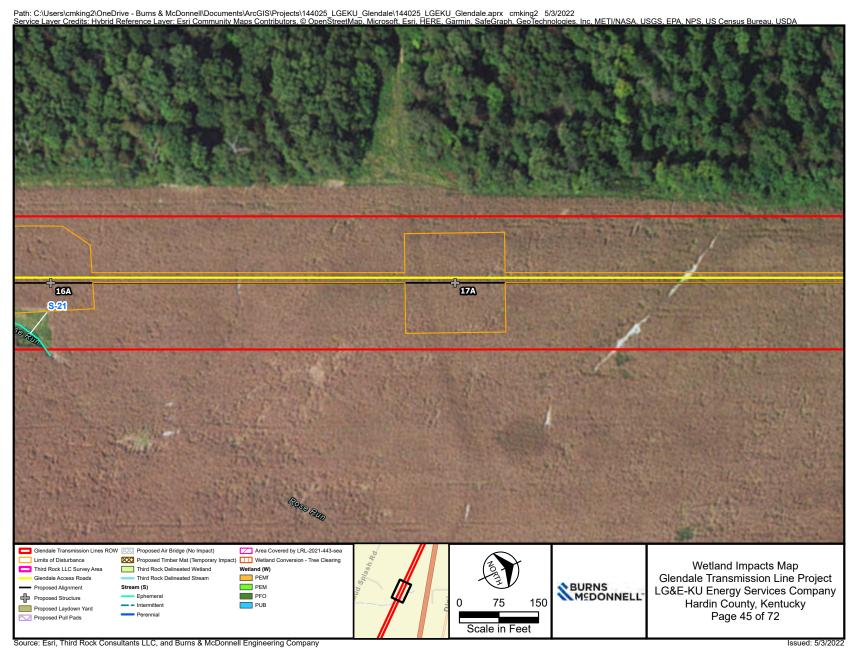


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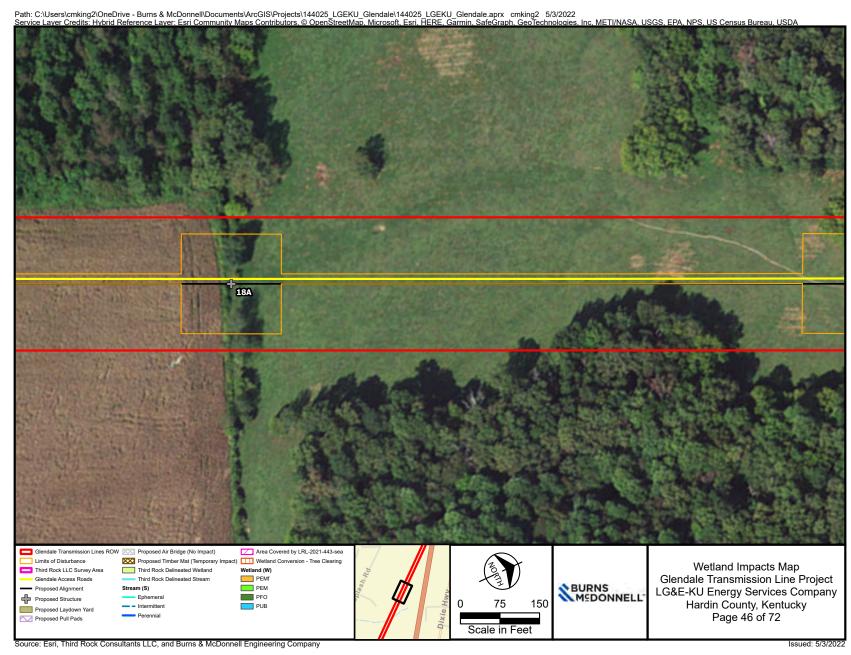


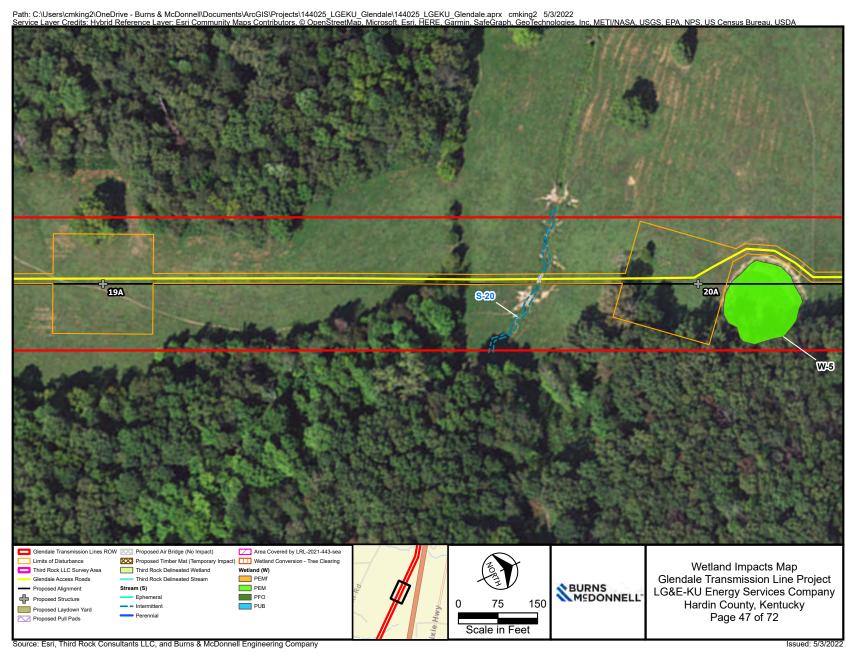




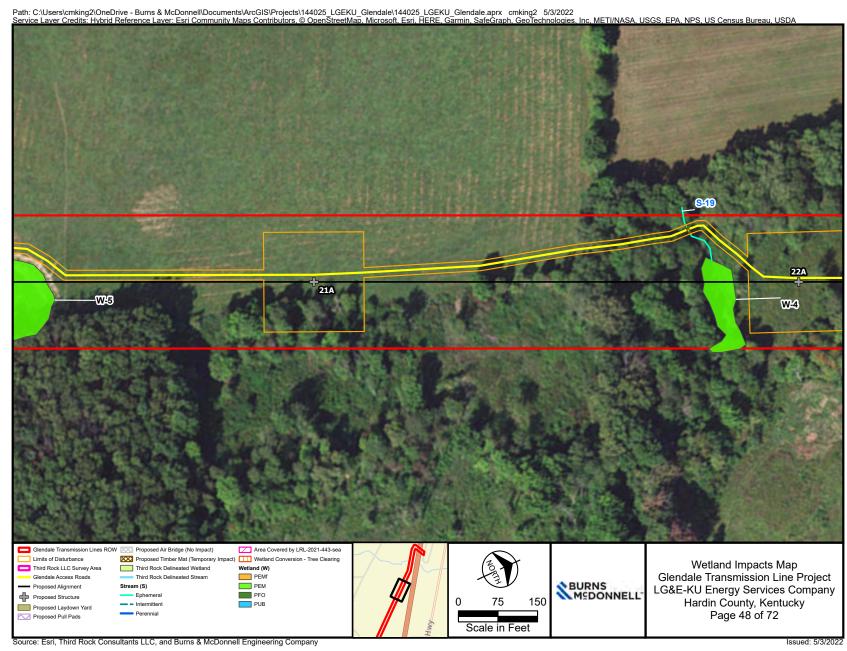


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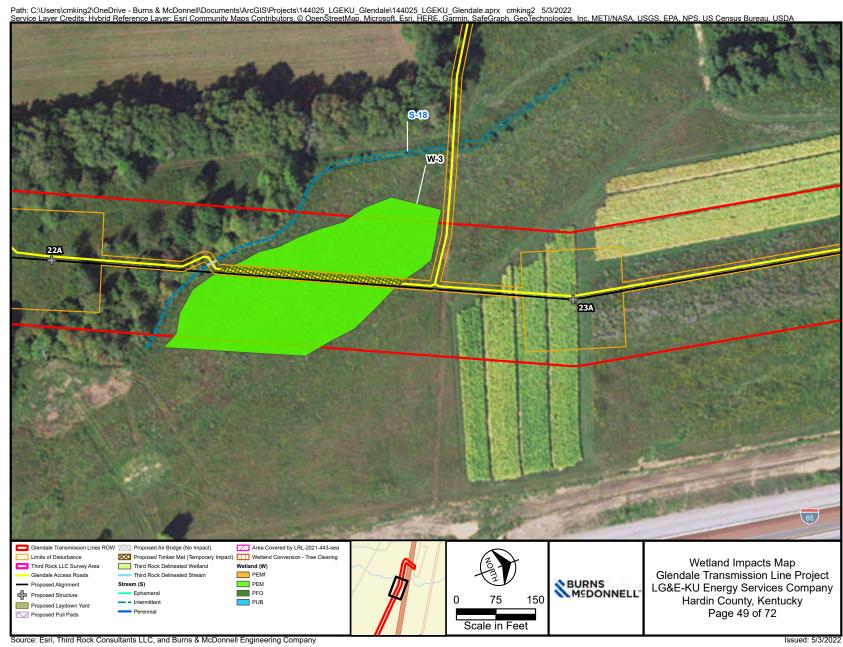




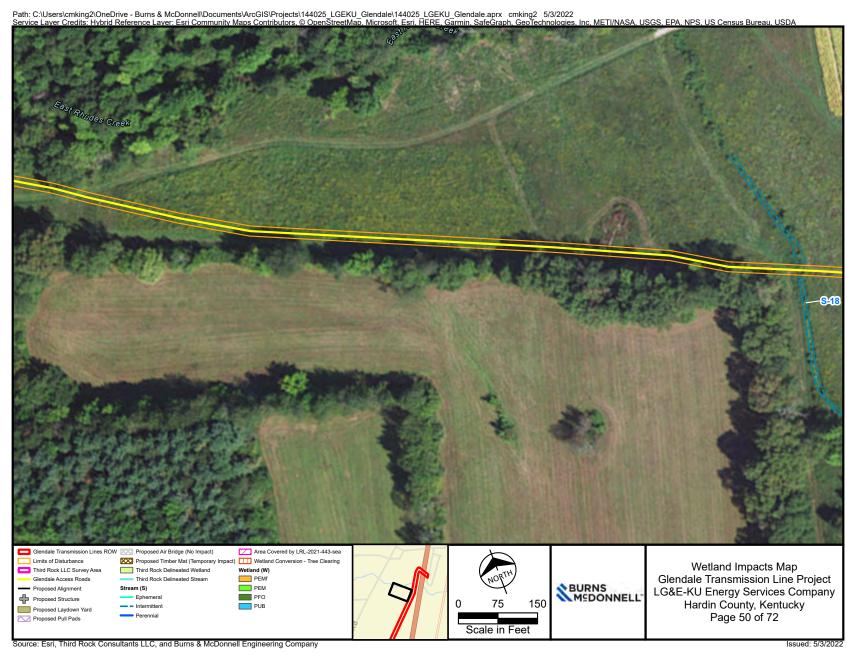
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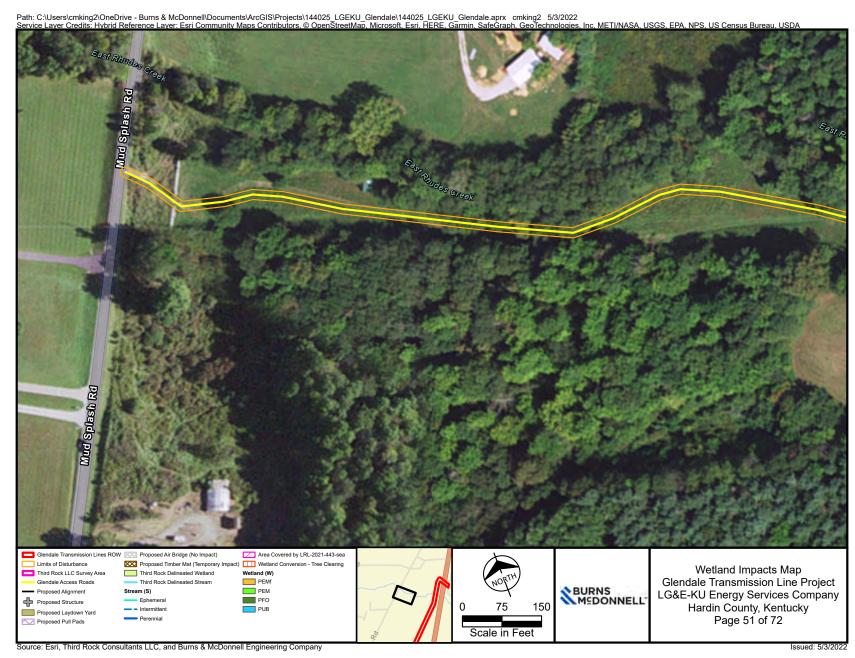
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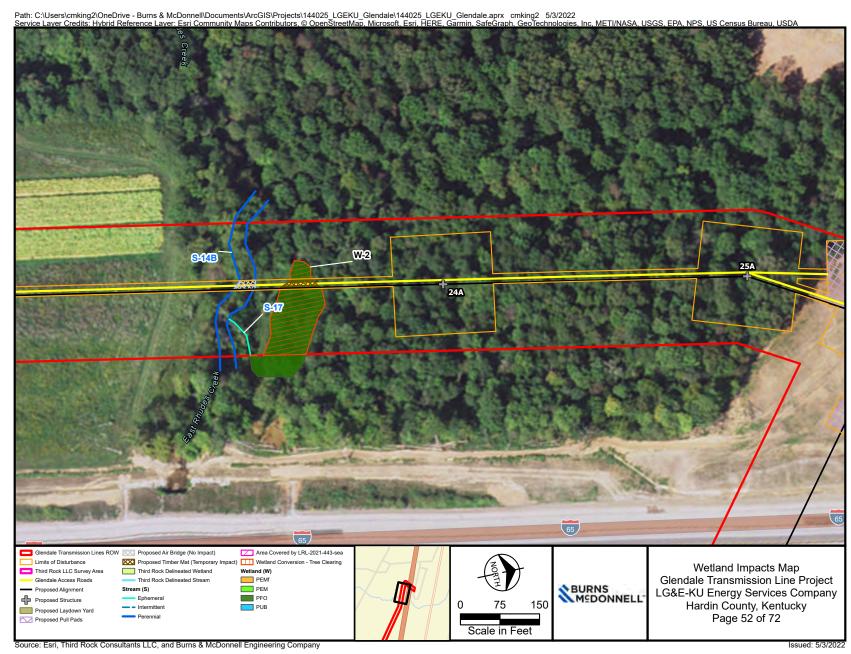


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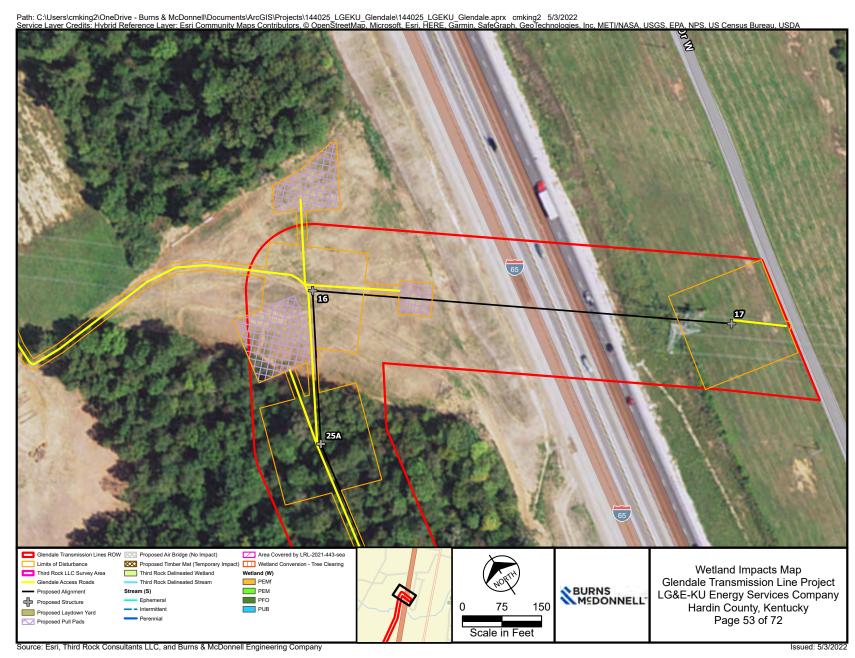


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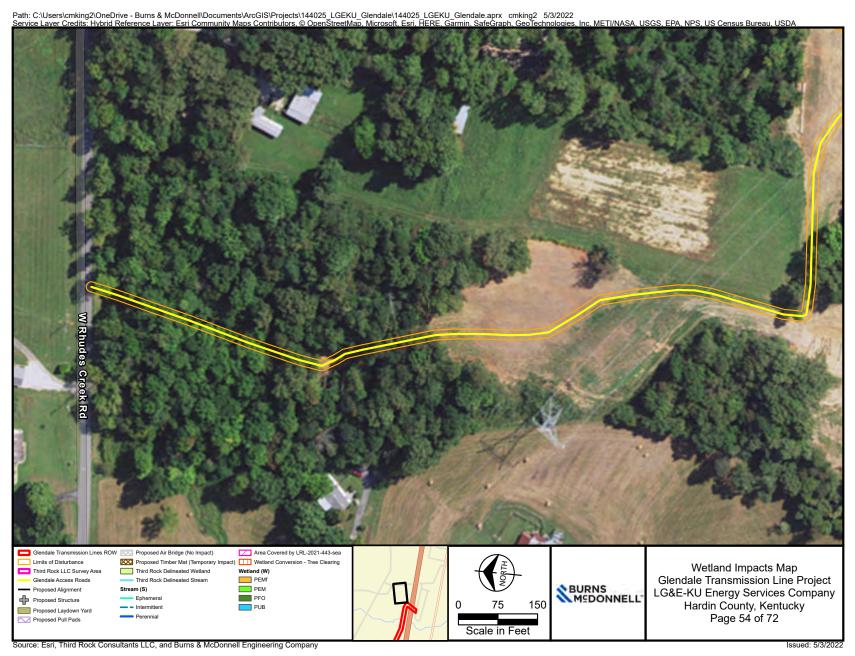


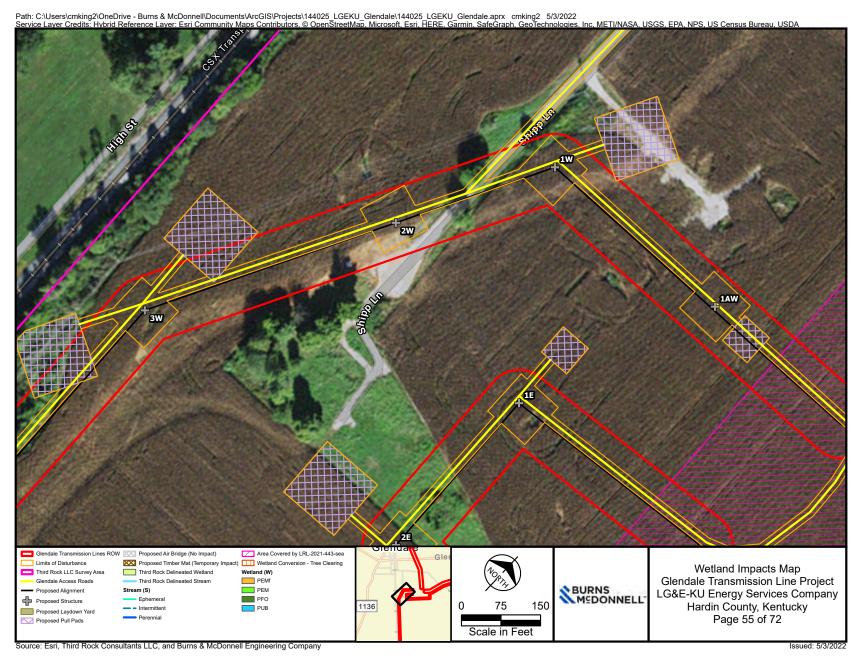


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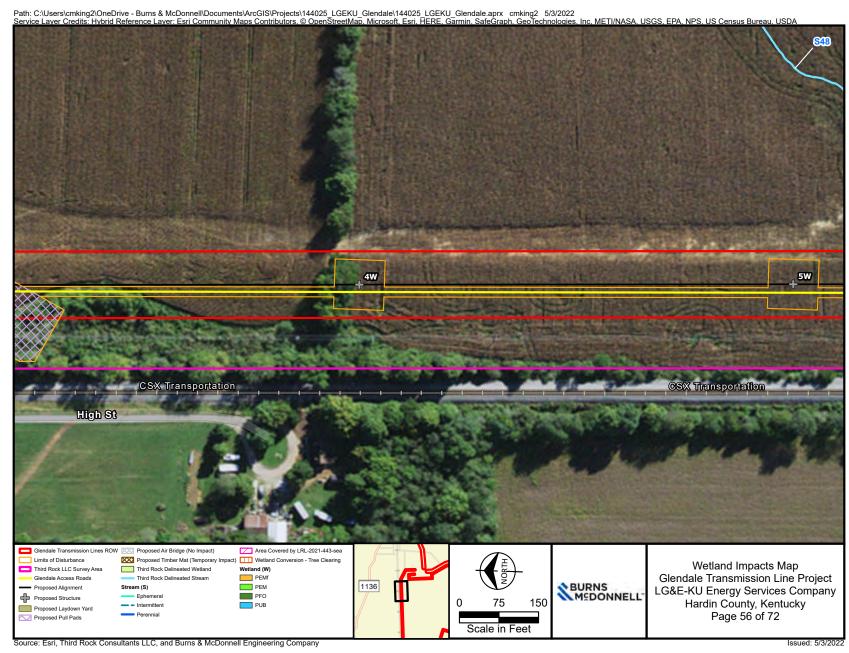


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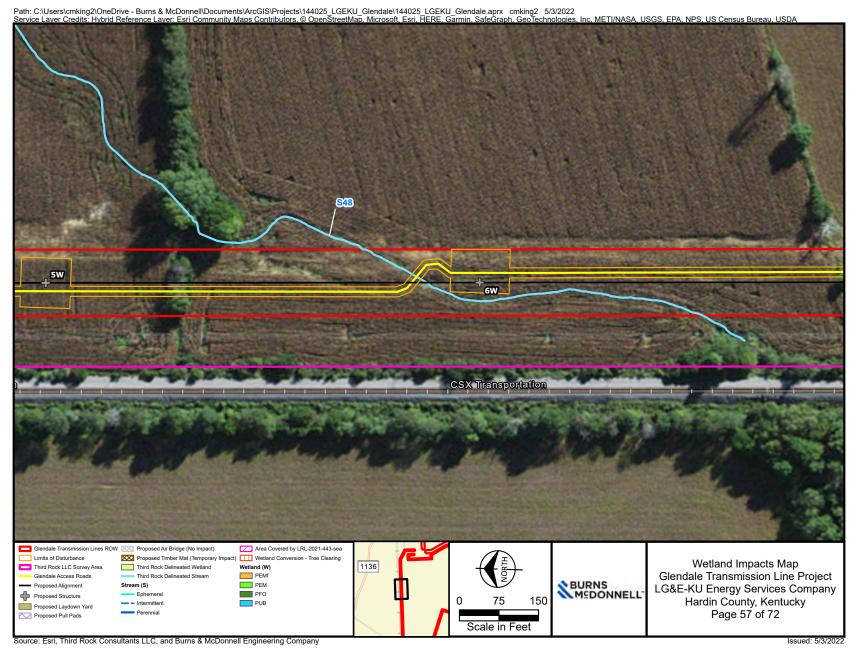


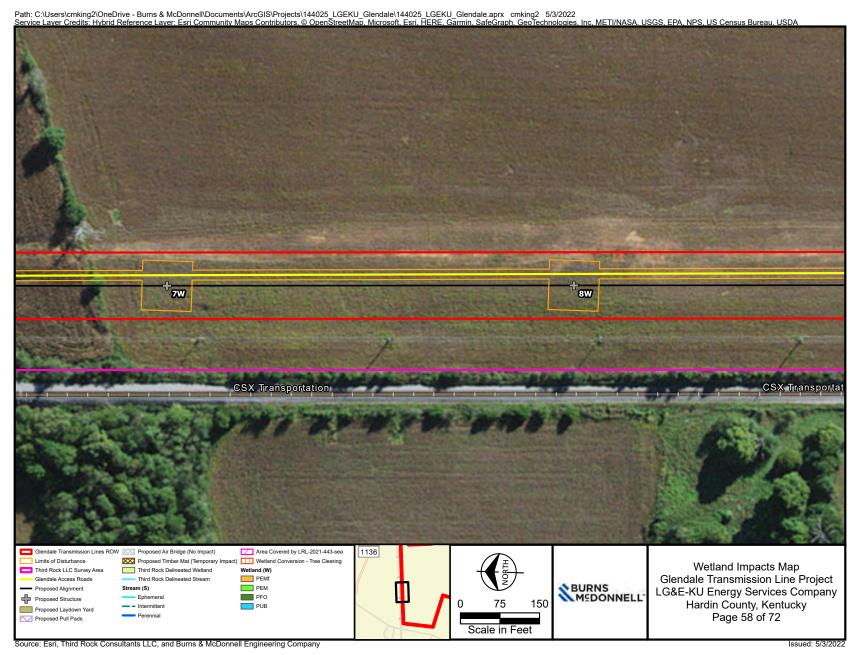


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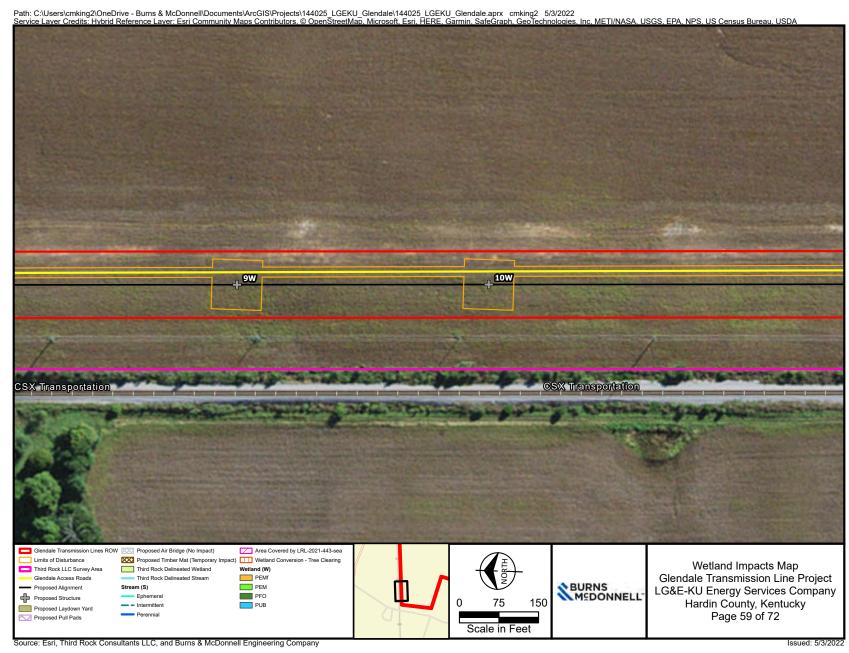


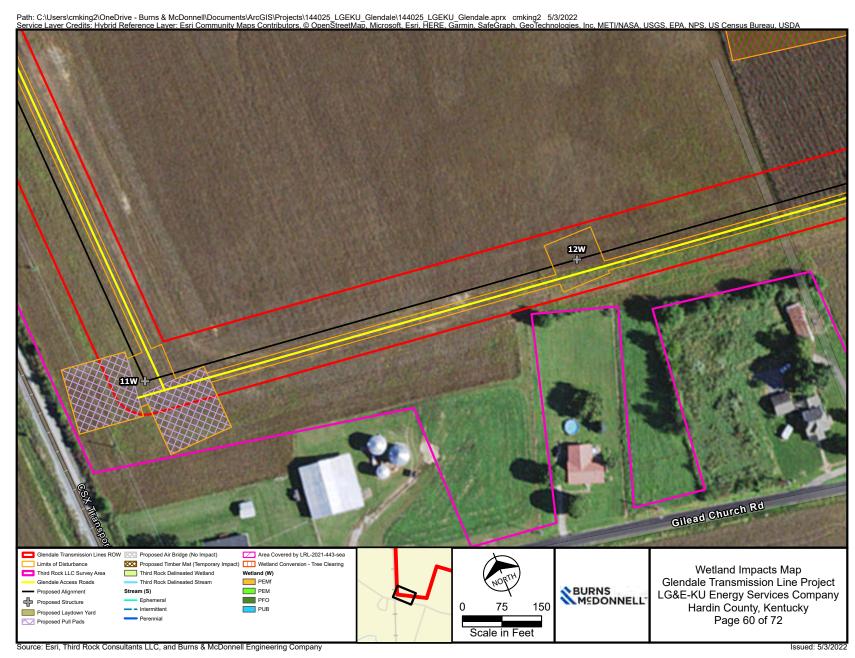
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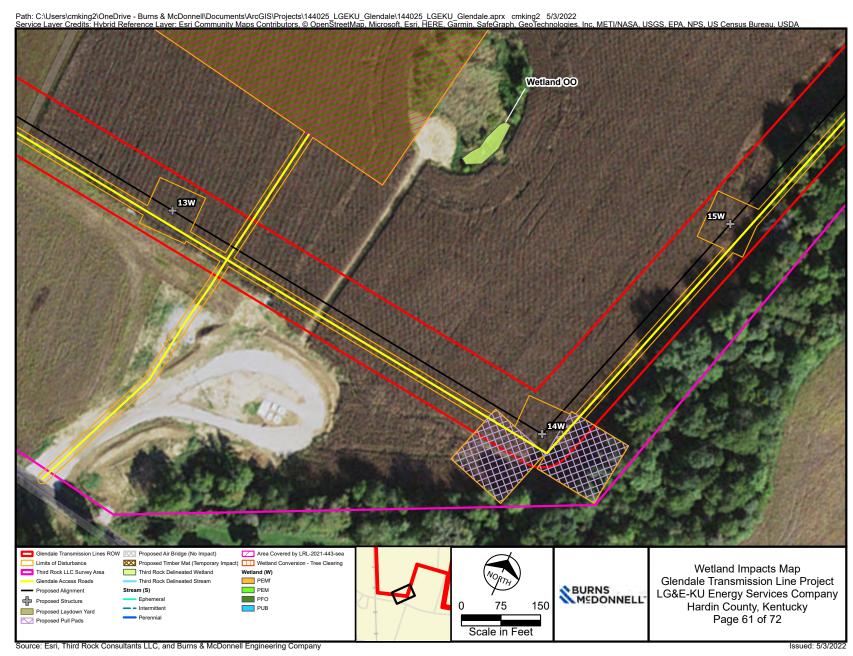


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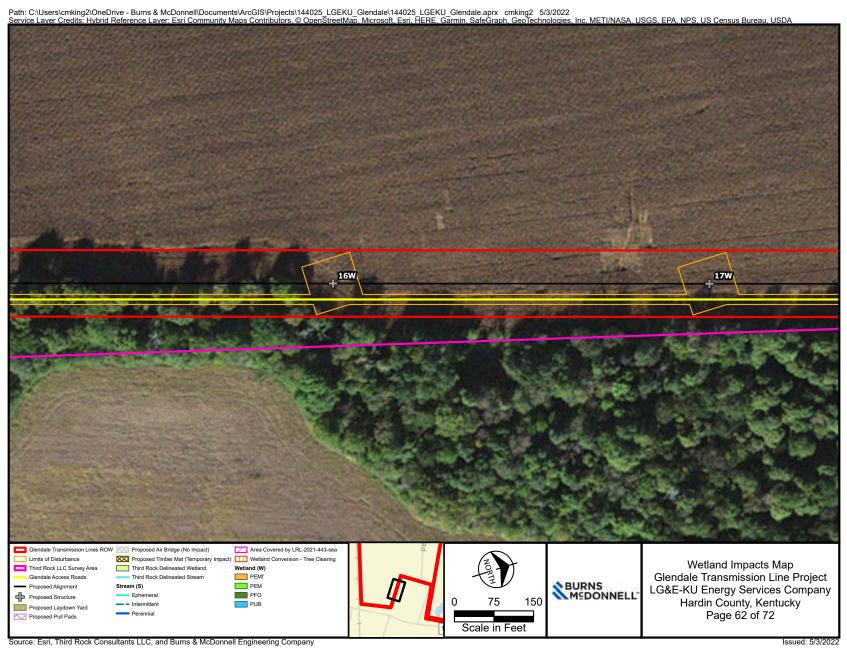




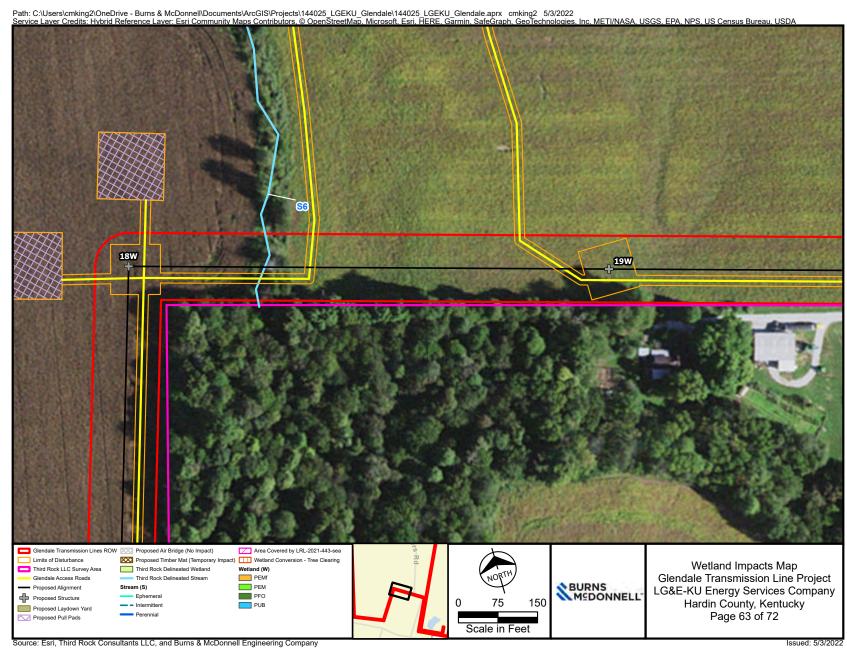
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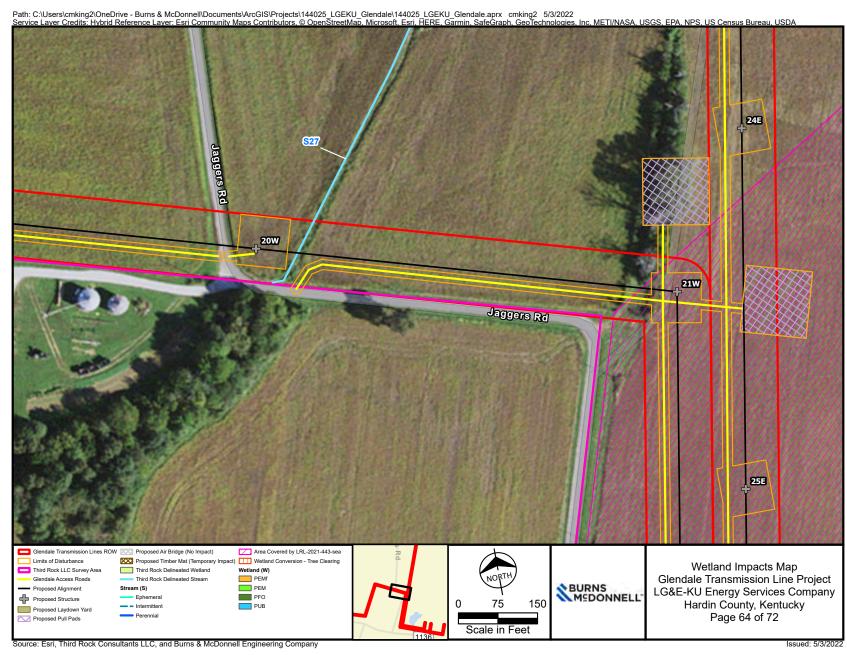
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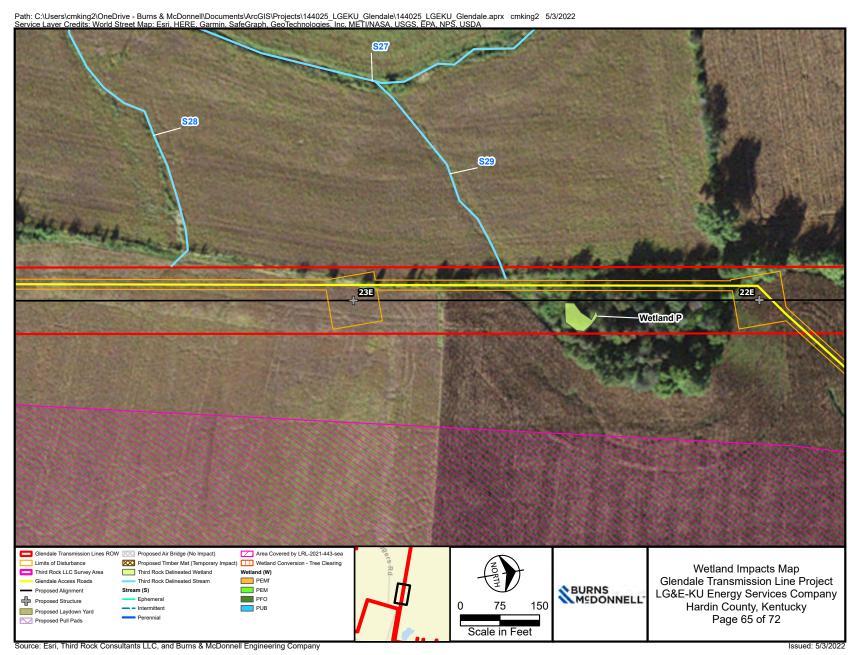
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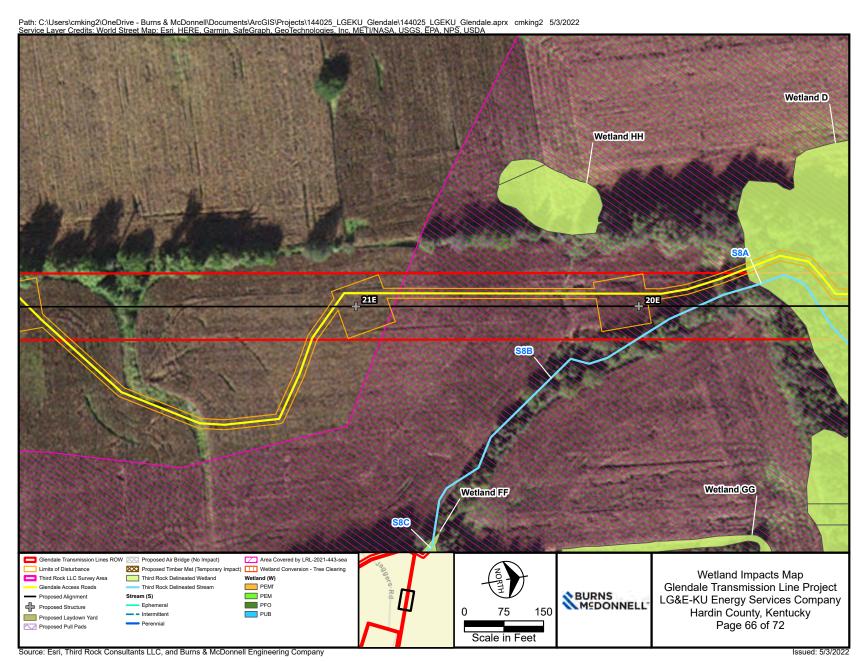
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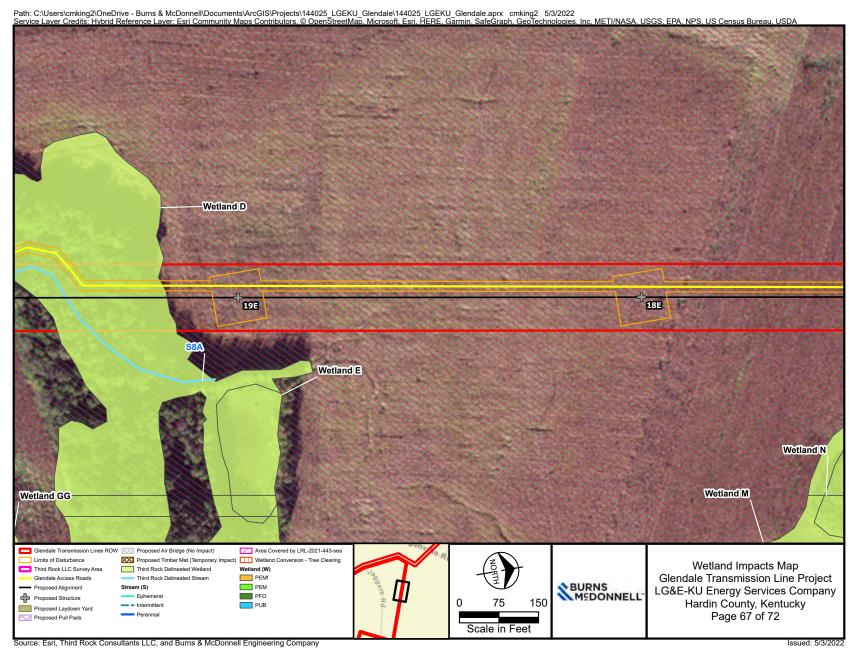
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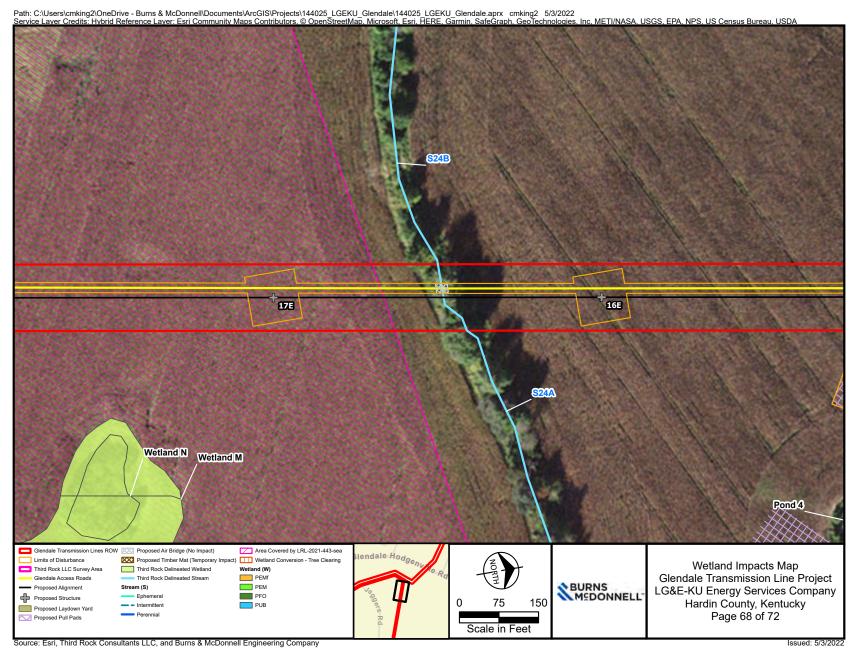
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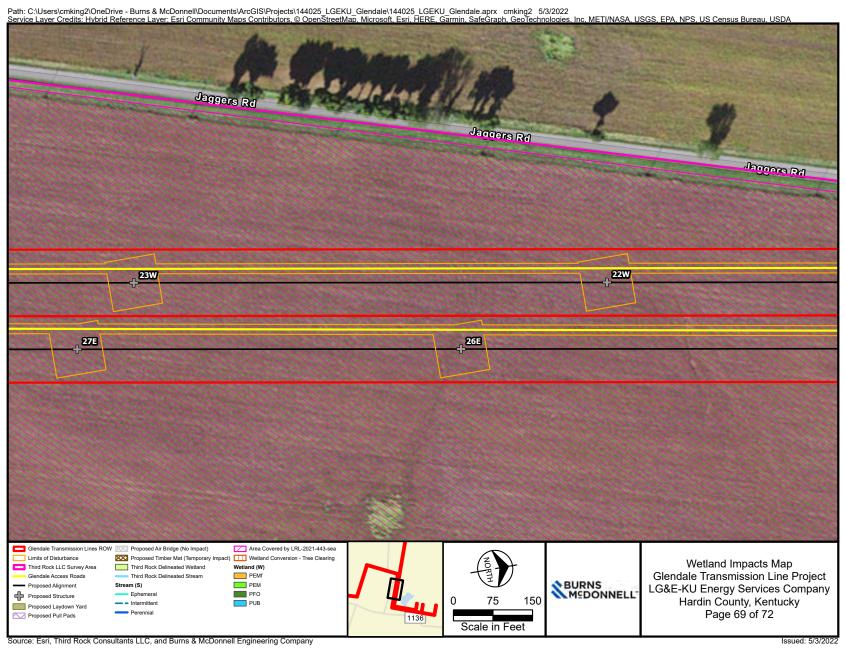
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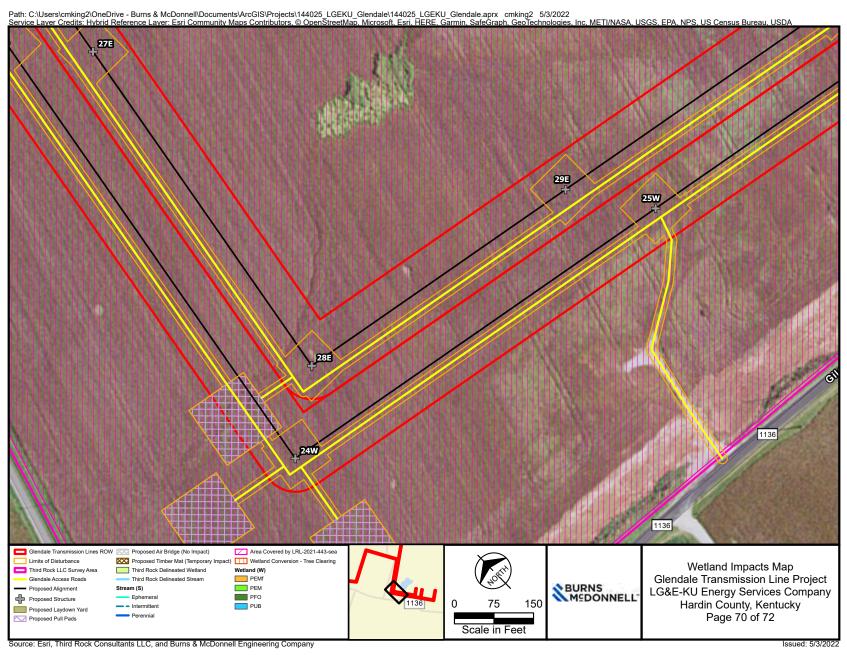


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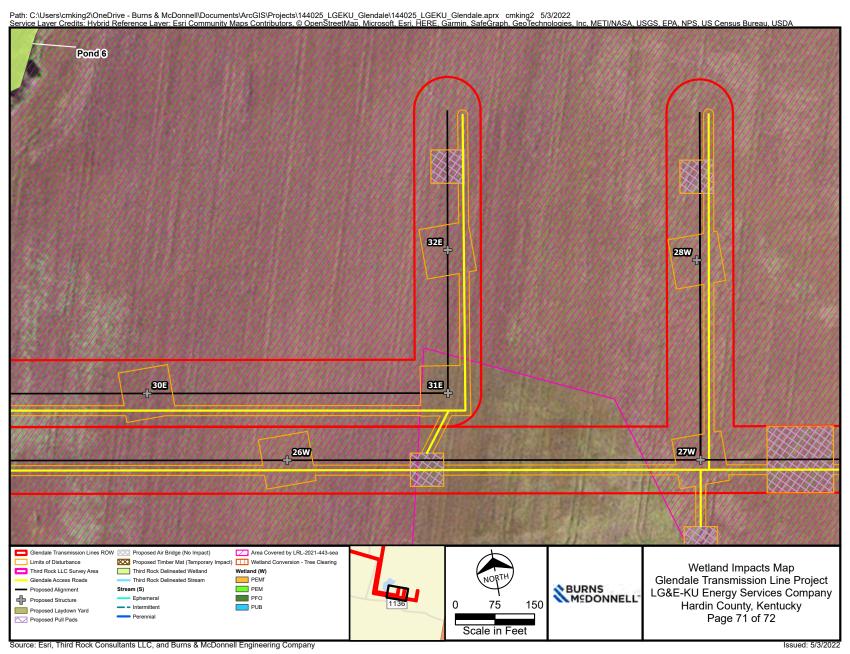


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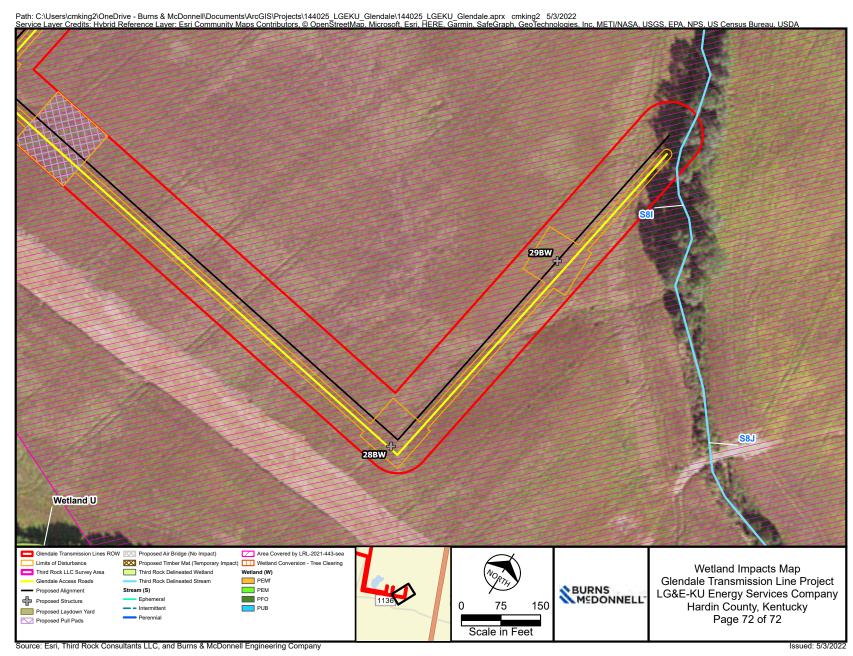




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## Glendale 345kV Transmission Lines Project LRL-2022-00469-sea

## **Summary of Stream/Wetland Disturbance and Tree Removal**

Resource Name	Stream Classification/ Wetland Type <sup>a</sup>	Length of Delineated Stream (feet)/Area of Wetland Delineated (Acre) in Survey Area	Temporary Air Bridge Installed below the OHWM (feet/acre) <sup>b</sup>	Permanent Wetland Disturbance Area (acre)	Acres of Tree Removal within 50'	Acres of Suitable Bat Habitat Removal within 50'	Latitude	Longitude	Description of Disturbance
S-AA	Ephemeral	15	15/0.003		0	0	37.667572		Temporary timber mat installed below the OHWM for construction access to string OPGW between Structures 1 and 2.
S-AB	Ephemeral	16	16/0.003		0	0	37.667549	-85.902507	Temporary timber mat installed below the OHWM for construction access to string OPGW between Structures 1 and 2.
S-8	Ephemeral	331	15/0.001		0.02	0.02	37.626178		Temporary air bridge installed below the OHWM for construction access/line stringing between Structures 23 and 24
S-9	Ephemeral	166	16/0.003		0.03	0	37.610559		Temporary timber mat installed below the OHWM for line stringing between Structures 32 and 33
S-11	Perennial	884	15/0.004		0.04	0	37.606304		Temporary timber mat installed below the OHWM for construction access/line stringing between Structures 34 and 35
S-12	Intermittent	421	12/0.0004		0	0	37.606983	-85.903165	Temporary timber mat installed below the OHWM for construction access/line stringing between Structures 34 and 35
S-19	Ephemeral	87	15/0.001		0.02	0	37.625130	-85.864605	Temporary timber mat installed below the OHWM for construction access/line stringing between Structures 22A and 23A.
S-23	Intermittent	257	15/0.001		0	0	37.608228	-85.874073	Temporary timber mat installed below the OHWM for construction access/line stringing between Structures 23A and 24A.  An existing culverted access road will be used for the construction access road from Glenwood Drive to the ROW.
S-25	Intermittent	238	16/0.004		0	0	37.601892	-85.877781	Temporary timber mat installed below the OHWM for construction access/line stringing between Structures 23A and 24A.
W-2	PFO	0.18		Temporary Matting for Access Road - 0.016 Permanent Conversion PFO to PEM - 0.185	0.54	0	37.627968	-85.863088	Trees within W-2 will be cut by hand, no mechanized clearing is proposed.  Temporary timber matting will be used for construction/line stringing access between Structures 24A and 25A. Temporary timber matting is wholly located within the portion of W-2 being converted from a PFO to a PEM wetland.  W-2 will be converted from a PFO to a PEM

5/27/2022

## Glendale 345kV Transmission Lines Project LRL-2022-00469-sea

## **Summary of Stream/Wetland Disturbance and Tree Removal**

Resource Name	Stream Classification/ Wetland Type <sup>a</sup>	Length of Delineated Stream (feet)/Area of Wetland Delineated (Acre) in Survey Area	(fact/care) <sup>b</sup>	Permanent Wetland Disturbance Area (acre)	Acres of Tree Removal within 50'	Acres of Suitable Bat Habitat Removal within 50'	Latitude	Longitude	Description of Disturbance
W-3	PEM	1.1	-	0.092	0.17	0	37.625151	-X3 X6/L/6/	Temporary timber matting will be used for construction/line stringing access between Structures 23A and 24A.
W-6	PEMf	0.44	-	0.035	0	0	37.612458		Temporary timber matting will be used for construction/line stringing access between Structures 15A and 16A.
W-8	PEM	0.72		0.07	0	0	37.602045	-X3 X / / //13	Temporary timber matting will be used for construction/line stringing access between Structures 10A and 11A.
Total		2,415/2.26	135/0.02	0.382	0.82	0.02			

<sup>(</sup>a) PEMf = farmed wetland, PEM = palustrine emergent, PFO = palustrine forested

<sup>(</sup>b) Temporary air bridges or timber mats will be placed across the stream as the bank height is not anticipated to provide a span across the stream above the OHWM. The OHWM bank height is provided in the attached Wetland Delineation Report.