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VIA EMAIL

April 3, 2023

Mr. David A. Mindel
Mindel, Scott & Associates, Inc.
5151 Jefferson Blvd.
Louisville, Ky 40219
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**Subject: Water/Wetland Delineation Summary Report
Fern Valley Road Three-Tract Development
Louisville, Jefferson County, Kentucky
RES Project No.: 107794**

Dear Mr. Mindel:

RES Kentucky, LLC (RES) is pleased to provide Mindel, Scott & Associates, Inc. (MSA) with this Water/Wetland Delineation Summary Report for the proposed Fern Valley Road Three-Tract Development project in Louisville, Jefferson County, Kentucky. The approximately five-acre site has an address of 4113 and 4111 Fern Valley Road and lies on the north side of Fern Valley Road, approximately 0.7-mile east of the intersection of Fern Valley Road and Preston Highway (Figure 1). The goal of these services was to identify the location and extent of jurisdictional waters/wetlands and threatened/endangered (T/E) species habitat on the site to assist with preliminary project planning.

Based on the delineation, jurisdictional water/wetland features present on the site include one perennial stream (Blue Spring Ditch) measuring 367 linear feet (0.126 acre) and one ephemeral stream measuring 712 linear feet (0.098 acre). In addition, 3.29 acres of suitable summer habitat for the Indiana bat (*Myotis sodalis*) and the northern long-eared bat (*Myotis septentrionalis*) is present in the mixed-age woods on site.

METHODOLOGY

The water/wetland delineation included in-house and field components. In-house research involved review of the USGS topographic quadrangle map, aerial photography, the Jefferson County soil survey, and Federal Emergency Management (FEMA) floodplain mapping. Following review of these materials, RES conducted a field delineation on December 7, 2022, to identify the location and extent of jurisdictional waters/wetlands on the site. During the field visit, the presence of jurisdictional

streams and open water bodies was evaluated based on ordinary high-water mark (OHWM), defined bed and bank features, and flow regimes. The quality of the perennial stream identified within the project boundary was evaluated using the Rapid Bioassessment Protocol developed by the USEPA. Potential wetland areas were investigated using the Routine On-Site Determination Method as defined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain Piedmont Region – Version 2.0* (April 2012). This technique uses a multi-parameter approach that requires positive evidence of three criteria: wetland hydrology, hydric soils, and hydrophytic vegetation. This delineation has not been verified by the USACE, who holds final authority over determinations of the location and extent of jurisdictional waters/wetlands.

The field assessment was also used to identify the presence of suitable habitat for T/E species known to occur in Jefferson County, including the Indiana bat, northern long-eared bat, and gray bat. Potential impacts to T/E species must be addressed in any federal permitting process.

RESULTS

Based on the delineation, jurisdictional waters present on the site include one perennial stream and one ephemeral stream. A review of historic USGS topographic maps confirms the designation of the on-site ephemeral stream. While depicted as an intermittent blue-line channel on the 2013 and previous maps, it is not mapped as a blue-line feature on the 2016 or 2019 maps. In addition, it appears to be a man-made feature that functions entirely for stormwater flow management. An ephemeral stream is defined as flowing primarily in response to precipitation events. The results of the water/wetland delineation are depicted on Figure 2 and summarized in the table below.

Feature	Stream Length (feet)	Stream Width (feet)	Area (acres)	Status
Blue Spring Ditch (Perennial Stream 1)	367	15	0.126	Jurisdictional
Perennial Stream Total	367	---	0.126	---
Ephemeral Stream 1	712	6	0.098	Jurisdictional
Ephemeral Stream Total	712	---	0.098	---
Jurisdictional Features Total	1,079	---	0.224	---

Habitat on site consists primarily of mixed-age woods with maintained right-of-way and lawn along Fern Valley Road. The mixed-aged woods habitat was identified as suitable summer habitat for the federally endangered Indiana and northern long-eared bats and totals 3.29 acres. Neither Perennial Stream 1 or Ephemeral Stream 1 were considered suitable commuting or foraging habitat for the

gray bat (*Myotis grisescens*). No potential hibernacula or non-forested roosting habitat for the three bat species is present on the property.

DISCUSSION

Potential development-related issues are discussed below in terms of waters/wetlands, federally threatened/endangered species, and cultural-historic and archaeological resources.

WATERS/WETLANDS

Jurisdictional waters of the U.S., including wetlands, are defined by 33 CFR Part 328.3 and are protected by Section 404 of the Clean Water Act (33 USC 1344), which is administered and enforced by the USACE. Many water/wetland impacts are also regulated by the Kentucky Division of Water (KDOW) – Water Quality Certification (WQC) Section. Current permitting thresholds are as follows:

- Avoidance of the jurisdictional waters would require no permits from, or coordination with, the USACE or KDOW. A formal Jurisdictional Determination (JD) can be obtained from the USACE, if desired.
- Impacts to less than 0.5 acre of waters can be authorized under the federal Nationwide Permit (NWP) program with the USACE
- Impacts to greater than 300 feet of intermittent/perennial stream or an in-line stream basin require an Individual Section 401 WQC from the KDOW.
- Impacts to less than 300 feet of intermittent/perennial stream meet the conditions of a General WQC and do not require coordination with the KDOW.
- Impacts to 0.03 acre or more of jurisdictional stream will require compensatory mitigation. Mitigation ratios for impacts to poor quality perennial and ephemeral streams are 1.5:1 and 0.5:1, respectively, with ratios increasing with stream quality. If required, mitigation credits can be purchased from either a private mitigation bank or the Kentucky In-Lieu Fee program, which requires a 20% markup to cover temporal losses. The Kentucky In-Lieu Fee program currently charges \$518 per stream credit in the Salt River Service Area.

A NWP with the USACE generally takes three to six months. Permitting with the KDOW can generally be completed within the federal time frames.

THREATENED/ENDANGERED SPECIES

Under the Section 404 permitting process, the USACE determines if consultation with the U.S. Fish and Wildlife Service (USFWS) is required to address potential impacts to T/E species. The major T/E species issue of concern at this site is the clearing of the suitable Indiana and northern long-eared

bat summer habitat. Based on maps released by the USFWS, the project is located in a "Potential" Habitat Zone for the Indiana and northern long-eared bat. Under the 404 permitting process, impacts to this habitat will require consultation with the USFWS. Consultation generally results in a combination of seasonal tree clearing restrictions, presence/absence surveys, and/or mitigation through payments into the Imperiled Bat Conservation Fund (IBCF). Current rates for tree clearing in a "Potential" Habitat Zone are \$2,175/acre in the unoccupied period (October 15 through March 31), \$4,350/acre for clearing in the occupied period (April 1 through October 14, excluding June/July), and \$8,700/acre for clearing during the non-volant period (June 1 through July 31).

CULTURAL HISTORIC AND ARCHAEOLOGICAL RESOURCES

Under the Section 404 permitting process, the USACE determines if consultation with the State Historic Preservation Office (SHPO) is required to address potential impacts to significant archaeological/historic features. We are not aware of any archaeological features or studies that have been done on the site. We can obtain a quote for these surveys, if required.

CONCLUSION

In conclusion, based on the delineation, jurisdictional waters present on the site are limited to one perennial stream (Blue Spring Ditch) measuring 367 linear feet (0.126 acre) and one ephemeral stream measuring 712 linear feet (0.098 acre). If impacts to the on-site jurisdictional waters can be avoided then no permits from, or coordination with, the USACE, KDOW, USFWS, or SHPO would be required, unless you require a formal Jurisdictional Determination from the USACE to verify the delineation. If the jurisdictional waters will be impacted, the project will require authorization from the USACE and possibly the KDOW. Impacts to greater than 0.03 acre of jurisdictional stream will require mitigation. Specific permit requirements and mitigation costs can be determined once a final site design has been developed.

We appreciate the opportunity to assist you on this important project. Please call Valerie Jones or Ron Thomas at (502) 625-3009 with any questions on this report or the overall project.

Sincerely,

Valerie J. Jones
by SMW

Valerie J. Jones
Ecologist I

Ronald L. Thomas
Ronald L. Thomas (Apr 3, 2023 15:18 EDT)

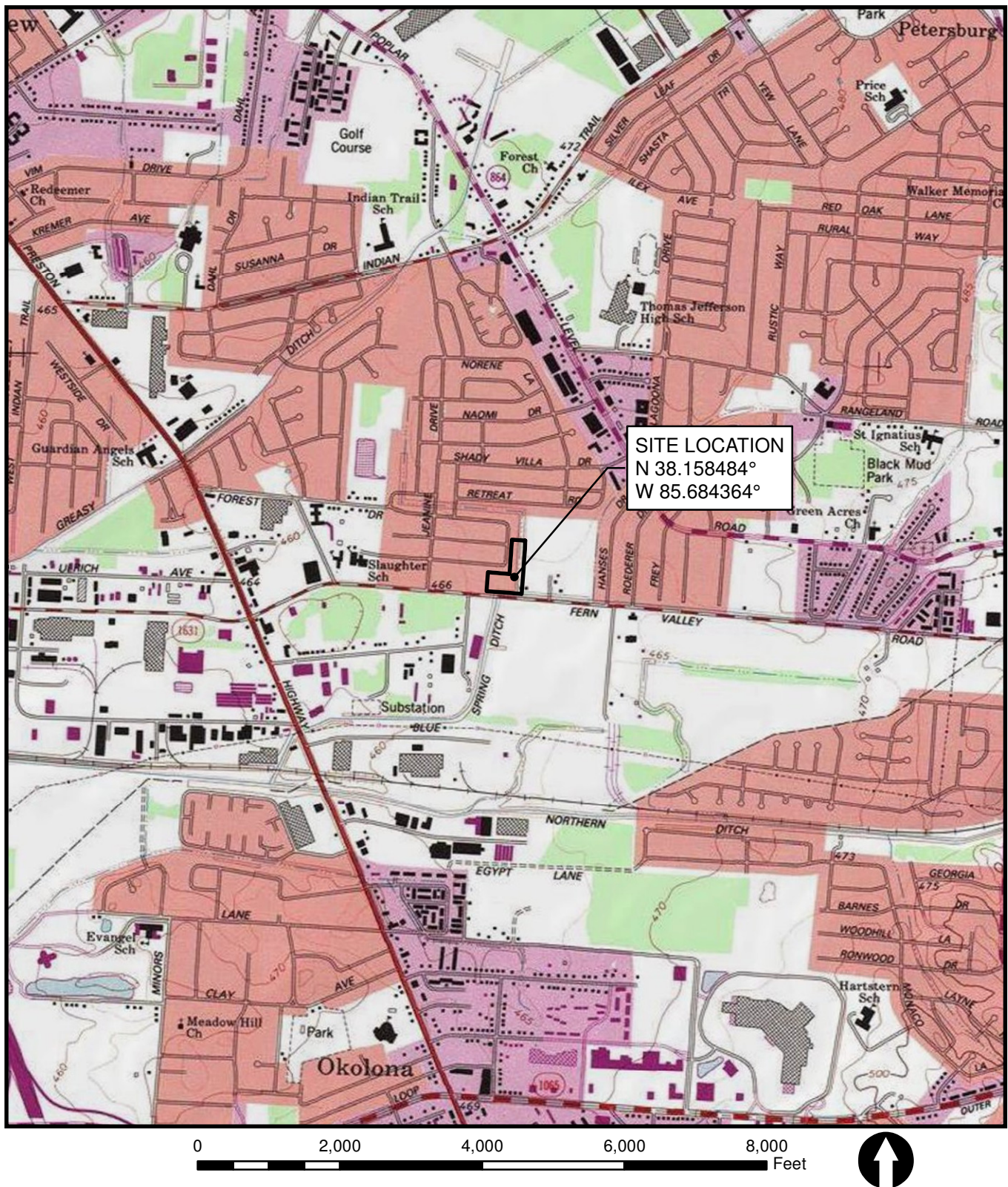
Ronald L. Thomas
State Business Manager - Kentucky

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Attachments: Figures

FIGURES

Source: USGS 7.5-minute Topographic Map - Louisville East, Kentucky Quadrangle.



FERN VALLEY ROAD
THREE-TRACT DEVELOPMENT
JEFFERSON COUNTY, KENTUCKY



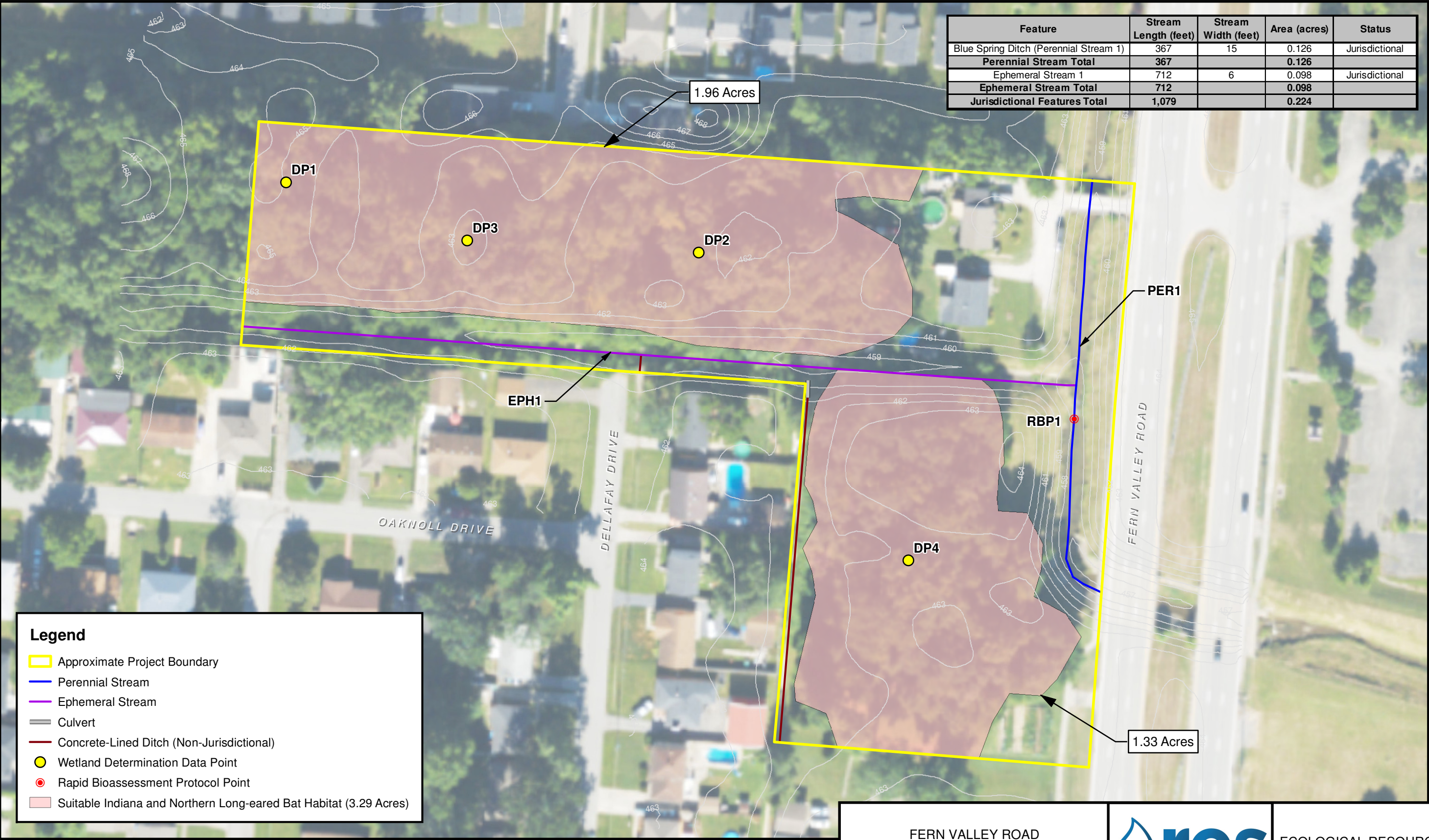
SITE LOCATION MAP

REVISED DATE: 12-08-22

DRAWN BY: EDB/CDS

FIGURE 1

Source: Aerial - (NAIP-FSA) from kygisserver.ky.gov ArcGIS services (2020); Existing one-foot contour topography generated from DEM.



NOTE: JURISDICTIONAL WATER/WETLAND BOUNDARIES WERE DELINEATED AND SURVEYED BY RES WETLAND SCIENTISTS ON DECEMBER 7, 2022. THESE BOUNDARIES HAVE NOT BEEN VERIFIED BY THE U.S. ARMY CORPS OF ENGINEERS. USE OF THIS MAP IS FOR PRELIMINARY PLANNING PURPOSES ONLY.



FERN VALLEY ROAD
THREE-TRACT DEVELOPMENT
JEFFERSON COUNTY, KENTUCKY

REVISED DATE:04-03-23 | DRAWN BY: EDB/CDS



ECOLOGICAL RESOURCES
MAP

FIGURE 2

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