



**REDWING**  
ECOLOGICAL SERVICES, INC.

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**VIA EMAIL**

August 29, 2019

Mr. Richard Hearth  
Perfection Builders, LLC  
P.O. Box 435494  
Louisville, Kentucky 40253  
rich@perfectionbuilders.com

**Subject: Water/Wetland Reconnaissance Summary Report  
Aiken 103  
Jefferson County, Kentucky  
Redwing Project No.: 19-109**

Dear Mr. Hearth

Redwing Ecological Services, Inc. (Redwing) is pleased to provide Perfection Builders, LLC with this Water/Wetland Reconnaissance Summary Report for the 250-acre Aiken 103 property in Jefferson County, Kentucky. The goal of these services was to identify the approximate location and extent of jurisdictional waters/wetlands and threatened/endangered (T/E) species habitat on the site to assist with preliminary project planning.

The perennial stream Floyds Fork comprises the northwest boundary of the property and one other perennial stream, 12 intermittent streams, 38 ephemeral streams, and 14 wetlands were identified along well-defined drainageways or within old pond beds which are tributaries to Floyds Fork.

#### **METHODOLOGY**

The reconnaissance included in-house and field components. In-house research involved review of the USGS topographic quadrangle map, aerial photography, the Jefferson County soil survey, FEMA floodplain mapping, and digital elevation model (DEM) mapping. Following review of these materials, Redwing conducted a field reconnaissance on August 13 and 15, 2019, to identify the approximate 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. 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 Mountains and Piedmont Region – Version 2.0* (April 2012). This technique identifies wetlands based on evidence of wetland hydrology, hydric soils, and hydrophytic vegetation. The water/wetland features have not been formally delineated or surveyed, and have not been verified by the U.S. Army Corps of Engineers (USACE), who holds final authority over their regulatory status.

The field assessment was also used to identify the potential presence of suitable habitat for T/E species known to occur within the project vicinity. The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) website was used to obtain a list of federally-listed T/E species that may occur on the project site, which include the Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), gray bat (*Myotis grisescens*), and running buffalo clover (*Trifolium stoloniferum*). Potential impacts to T/E species must be addressed in any federal permitting process.

## RESULTS

The 250-acre site is located on the northwest side of Aiken Road at the Aiken Road and Johnson Road intersection in Jefferson County, Kentucky (Figures 1 and 2). The site consists primarily of old field with medium-aged woods throughout, along fencelines, drainageways, and scattered woodlots (Figure 2). The water/wetland features identified on site are depicted on Figure 3, listed in Table 1, and summarized below.

Based on the reconnaissance, water/wetland features present on the site include:

- two perennial streams (including Floyds Fork) totaling approximately 3,050 linear feet
- 12 jurisdictional intermittent streams totaling approximately 8,100 linear feet
- 35 jurisdictional ephemeral streams totaling approximately 7,615 linear feet
- 12 jurisdictional wetlands totaling approximately 1.37 acres
- three isolated, non-jurisdictional ephemeral streams measuring 820 linear feet
- two isolated, non-jurisdictional wetlands totaling approximately 0.05 acre

In addition, suitable habitat for T/E species on the site includes: summer roosting habitat for the Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) within medium-aged wooded areas and scattered trees; suitable foraging and commuting habitat for the gray bat (*Myotis grisescens*) along the Floyds Fork riparian corridor; and marginal habitat for running buffalo clover (*Trifolium stoloniferum*) along old trails and roadways. Most of the trails and roadways are covered with Chinese stiltgrass (*Microstegium vimineum*) which would outcompete running buffalo clover, however, some of them contained marginal habitat for running buffalo clover that will need to be reviewed in detail during the delineation.

## PERMITTING AND MITIGATION DISCUSSION

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. Impacts to waters of the U.S. can require permitting ranging from activities that are pre-authorized, to those requiring a Nationwide Permit (NWP), to those requiring a full Individual Permit (IP). Certain activities can also require Section 401 Water Quality Certification (WQC) from the Kentucky Division of Water (KDOW) WQC Section and/or a permit from the KDOW Floodplain Management Section. Current permitting thresholds are as follows:

- Avoidance of the on-site streams and wetlands 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 300 feet or less of stream and 0.5 acre or less of total waters can be authorized by the USACE under the NWP program.
- Impacts to greater than 300 feet of stream or 0.5 acre of total waters require an IP from the USACE (unless the USACE issues a waiver to allow impacts to greater than 300 feet of stream to be handled under a NWP).
- Impacts to less than 300 feet of intermittent/perennial stream and 0.5 acre of wetland meet the conditions of the General WQC under Section 401 and do not require coordination with the KDOW.
- Impacts to greater than 300 feet of intermittent/perennial stream or 0.5 acre of wetland, or construction of in-line detention basins along intermittent/perennial streams, require an Individual WQC from the KDOW.
- Impacts to isolated, non-jurisdictional waters/wetlands are not regulated by the USACE or KDOW and therefore, do not require a permit from, or coordination with, either agency.
- Impacts to 300 feet or more of stream and 0.1 acre or more of total waters require compensatory mitigation.

NWPs often require a three to six-month review period, while IPs can take six to twelve months. Permitting with the KDOW can generally be completed within the federal time frames. Final jurisdictional impacts and specific permit and mitigation requirements can be determined based on a formal delineation and final site development plans.

Mitigation for streams and wetlands, if required, is generally provided through the purchase of credits from an approved mitigation bank or the Kentucky In-Lieu Fee program. Impacts to ephemeral streams are no longer allowed to be mitigated by the on-site stormwater management system. Stream mitigation is required at a 0.5:1 to 3:1 ratio depending on stream type and quality, and wetland mitigation is generally required at a 2:1 ratio. Stream credits can currently be purchased for approximately \$325 to \$400 each, while wetland credits cost approximately \$60,000 each.

In order to minimize and/or spread out permit and mitigation requirements, the project could be separated into phases which could be permitted individually. The USACE generally allows individual phases of projects to be permitted separately as long as they can be considered stand-alone projects and are separated in time.

### **ADDITIONAL COORDINATION**

Under the Section 404 permitting process, the USACE determines if consultation with the USFWS is required to address potential impacts to federally-listed species. Federally-listed species issues of concern at this site are likely limited to the clearing of suitable Indiana and northern long-eared bat summer habitat, gray bat commuting and foraging habitat, and running buffalo clover habitat. Based on maps prepared by the USFWS, the project is located within "Potential" habitat zone for the Indiana and northern long-eared bats. If Section 404 permitting is required, impacts to suitable bat habitat will require consultation with the USFWS and can include conducting presence/absence surveys or the preparation of a Biological Assessment with a potential fee payment of \$1,910 to \$3,820 per acre of habitat cleared depending on the time of year. If suitable running buffalo clover habitat will be impacted, a survey during the flowering period (late April to June) will be necessary to determine the presence/absence of running buffalo clover on site.

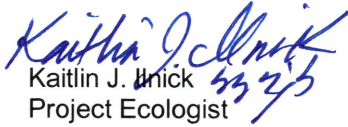
The USACE also determines if consultation with the State Historic Preservation Office (SHPO) is required to address potential impacts to significant cultural resources. We are not aware of any cultural resource studies that have been completed on the site; however, the USACE may require archaeological or cultural-historic surveys during their review.

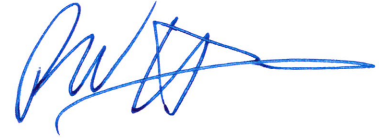
### **CONCLUSION**

In conclusion, based on Redwing's preliminary reconnaissance, potential jurisdictional waters on site include two perennial streams (including Floyds Fork) totaling approximately 3,050 linear feet; 12 intermittent streams totaling approximately 8,100 linear feet; 35 ephemeral streams totaling approximately 7,615 linear feet; and 12 wetlands totaling approximately 1.37 acres. In addition, potential isolated (non-jurisdictional) waters on the site include three ephemeral streams measuring 820 linear feet and two wetlands totaling approximately 0.05 acre. These features have not been formally delineated/surveyed or verified by the USACE. Specific permit and mitigation requirements for the overall project site or select phases can be determined based on a formal delineation and final site development plans.

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

Sincerely,

  
Kaitlin J. Innick  
Project Ecologist



Ronald L. Thomas  
Principal  
Senior Ecologist

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Attachments: Table 1 – Water/Wetland Reconnaissance Summary Table  
Figure 1 – Site Location Map  
Figure 2 – Water/Wetland Location Map

## **TABLE**

**Table 1: Water/Wetland Reconnaissance Summary**  
**Aiken 103**  
**Jefferson County, Kentucky**

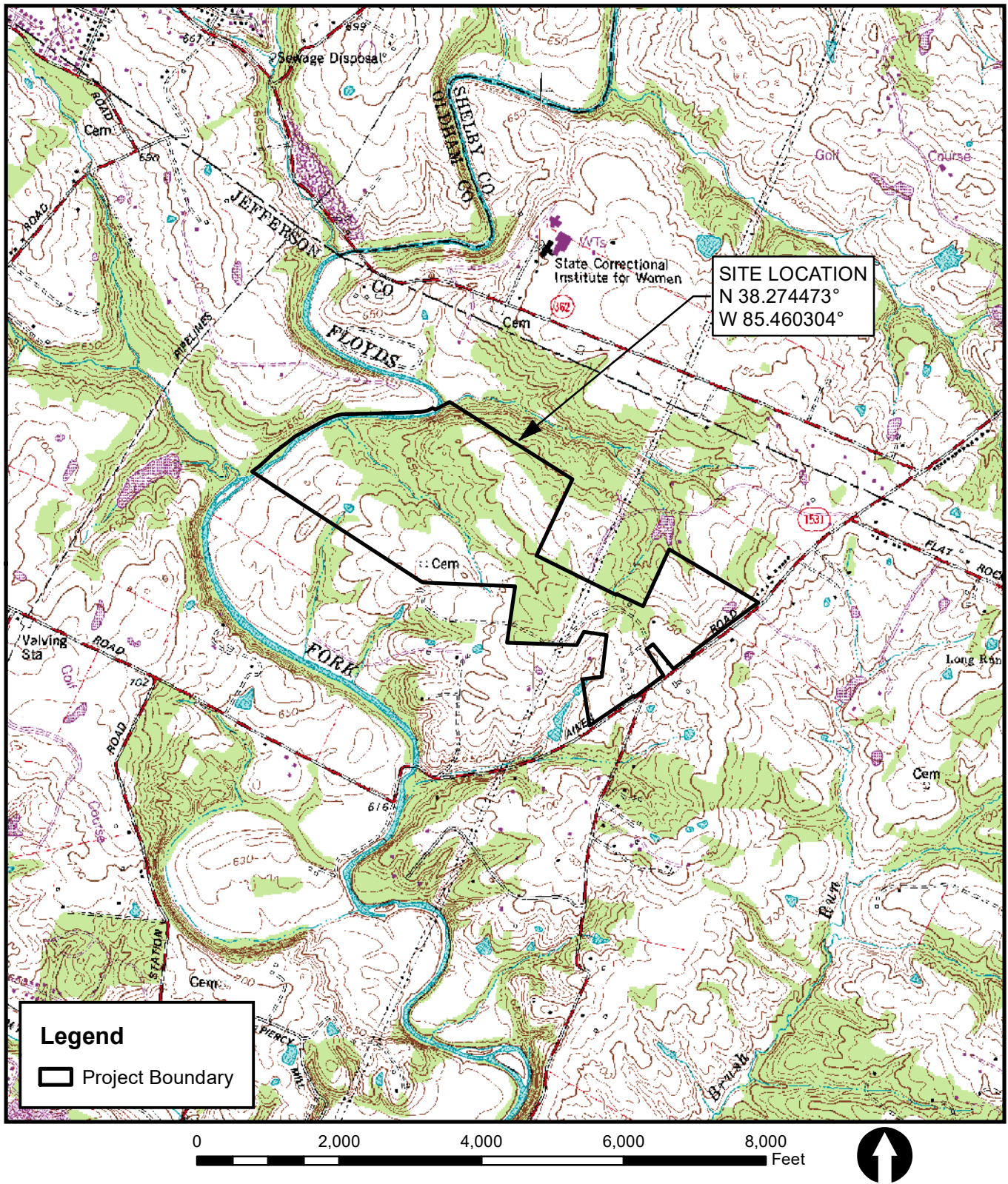
Feature	Approximate Stream Length (feet)	Approximate Stream Width (feet)	Approximate Area (acres)	Status
Floyds Fork	2,895	100	6.646	Jurisdictional
Perennial Stream 2	155	15	0.053	Jurisdictional
<b>Perennial Stream Total</b>	<b>3,050</b>		<b>6.70</b>	
Intermittent Stream 1	695	3	0.048	Jurisdictional
Intermittent Stream 2	265	3	0.018	Jurisdictional
Intermittent Stream 3	10	4.5	0.001	Jurisdictional
Intermittent Stream 4	55	1	0.001	Jurisdictional
Intermittent Stream 5	35	3.5	0.003	Jurisdictional
Intermittent Stream 6	155	2.5	0.009	Jurisdictional
Intermittent Stream 7	3,685	12.5	1.057	Jurisdictional
Intermittent Stream 8	370	3.5	0.030	Jurisdictional
Intermittent Stream 9	190	5	0.022	Jurisdictional
Intermittent Stream 10	480	3	0.033	Jurisdictional
Intermittent Stream 11	1,580	4.5	0.163	Jurisdictional
Intermittent Stream 12	580	2	0.027	Jurisdictional
<b>Intermittent Stream Total</b>	<b>8,100</b>		<b>1.41</b>	
Ephemeral Stream 1	510	2	0.023	Jurisdictional
Ephemeral Stream 2	45	1.5	0.002	Jurisdictional
Ephemeral Stream 3	205	2	0.009	Jurisdictional
Ephemeral Stream 4	725	2	0.033	Jurisdictional
Ephemeral Stream 5	195	1.5	0.007	Isolated
Ephemeral Stream 6	115	1.5	0.004	Jurisdictional
Ephemeral Stream 7	515	2	0.024	Jurisdictional
Ephemeral Stream 8	375	2	0.017	Isolated
Ephemeral Stream 9	220	3.5	0.018	Jurisdictional
Ephemeral Stream 10	130	2	0.006	Jurisdictional
Ephemeral Stream 11	250	2.5	0.014	Jurisdictional
Ephemeral Stream 12	25	2	0.001	Jurisdictional
Ephemeral Stream 13	80	1	0.002	Jurisdictional
Ephemeral Stream 14	365	3.5	0.029	Jurisdictional
Ephemeral Stream 15	55	3	0.004	Jurisdictional
Ephemeral Stream 16	120	2	0.006	Jurisdictional
Ephemeral Stream 17	205	2.5	0.012	Jurisdictional
Ephemeral Stream 18	225	1	0.001	Jurisdictional
Ephemeral Stream 19	55	2.5	0.003	Jurisdictional
Ephemeral Stream 20	60	2.5	0.003	Jurisdictional
Ephemeral Stream 21	75	2	0.003	Jurisdictional
Ephemeral Stream 22	525	2	0.024	Jurisdictional
Ephemeral Stream 23	250	3.5	0.020	Isolated
Ephemeral Stream 24	160	2.5	0.009	Jurisdictional
Ephemeral Stream 25	125	2	0.006	Jurisdictional
Ephemeral Stream 26	80	2.5	0.005	Jurisdictional
Ephemeral Stream 27	195	3.5	0.016	Jurisdictional
Ephemeral Stream 28	350	1	0.008	Jurisdictional
Ephemeral Stream 29	185	2	0.008	Jurisdictional
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Ephemeral Stream 37	40	2	0.002	Jurisdictional
Ephemeral Stream 38	125	1.5	0.004	Jurisdictional
<b>Ephemeral Stream Total<sup>1</sup></b>	<b>7,615</b>		<b>0.36</b>	
Wetland 1	---	---	0.03	Jurisdictional
Wetland 2	---	---	0.06	Jurisdictional
Wetland 3	---	---	0.02	Isolated
Wetland 4	---	---	0.01	Jurisdictional
Wetland 5	---	---	0.05	Jurisdictional
Wetland 6	---	---	0.14	Jurisdictional
Wetland 7	---	---	0.08	Jurisdictional
Wetland 8	---	---	0.70	Jurisdictional
Wetland 9	---	---	0.13	Jurisdictional
Wetland 10	---	---	0.03	Isolated
Wetland 11	---	---	0.01	Jurisdictional
Wetland 12	---	---	0.04	Jurisdictional
Wetland 13	---	---	0.10	Jurisdictional
Wetland 14	---	---	0.04	Jurisdictional
<b>Wetland Total<sup>1</sup></b>	<b>---</b>	<b>---</b>	<b>1.39</b>	
<b>Jurisdictional Features Total<sup>1</sup></b>	<b>18,765</b>		<b>9.86</b>	

<sup>1</sup> These totals are only for jurisdictional features. Isolated features are not included.

## FIGURES



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



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AIKEN 103  
JEFFERSON COUNTY, KENTUCKY



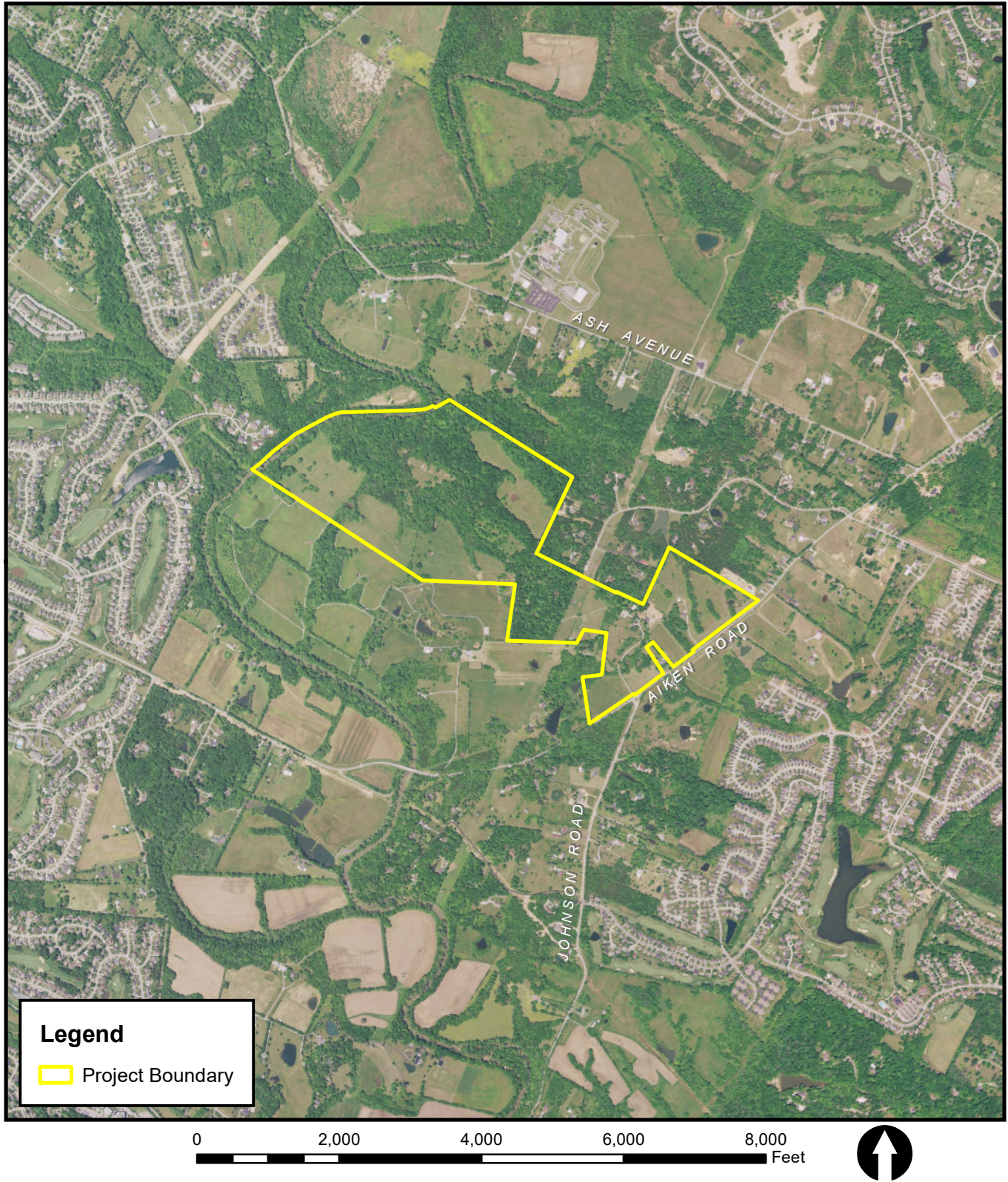
SITE LOCATION MAP

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FIGURE 1

Source: Aerial - 60cm color orthoimagery of the Commonwealth of Kentucky (NAIP-FSA) from kygisserver.ky.gov ArcGIS services (2016).



AIKEN 103  
JEFFERSON COUNTY, KENTUCKY



AERIAL PHOTOGRAPH MAP

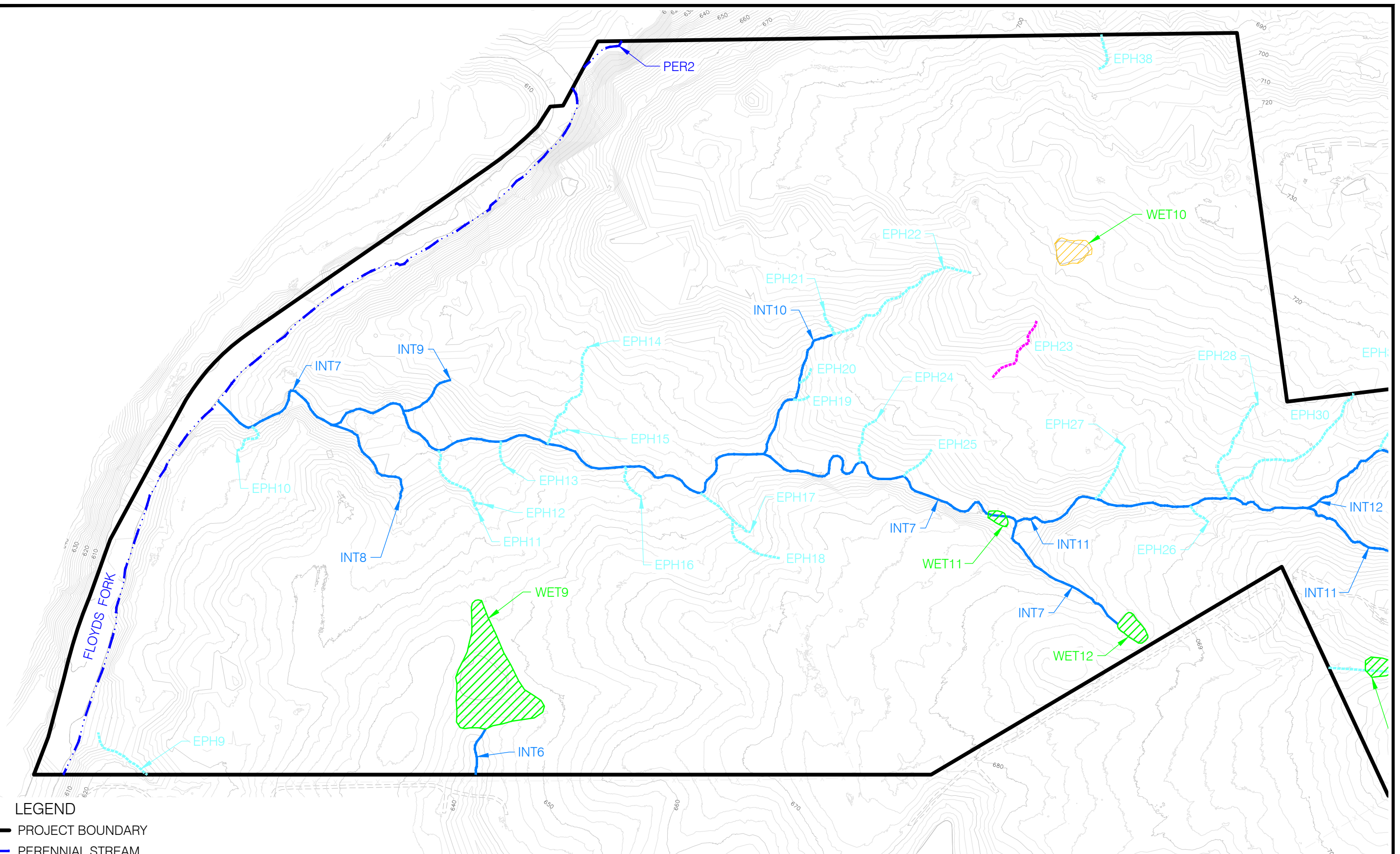
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FIGURE 2

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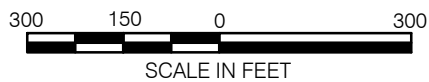
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LEGEND

-  PROJECT BOUNDARY
-  PERENNIAL STREAM
-  INTERMITTENT STREAM
-  EPHEMERAL STREAM
-  ISOLATED EPHEMERAL STREAM
-  WETLAND
-  ISOLATED WETLAND

NOTE: JURISDICTIONAL WATER/WETLAND BOUNDARIES WERE APPROXIMATED BY REDWING WETLAND SCIENTISTS ON AUGUST 13 AND 15, 2019. THESE BOUNDARIES HAVE NOT BEEN DELINEATED, SURVEYED, OR VERIFIED BY THE U.S. ARMY CORPS OF ENGINEERS. USE OF THIS MAP IS FOR PRELIMINARY PLANNING PURPOSES ONLY.



AIKEN 103  
JEFFERSON COUNTY, KENTUCKY

REVISED DATE: 08-28-19      DRAWN BY: EDB

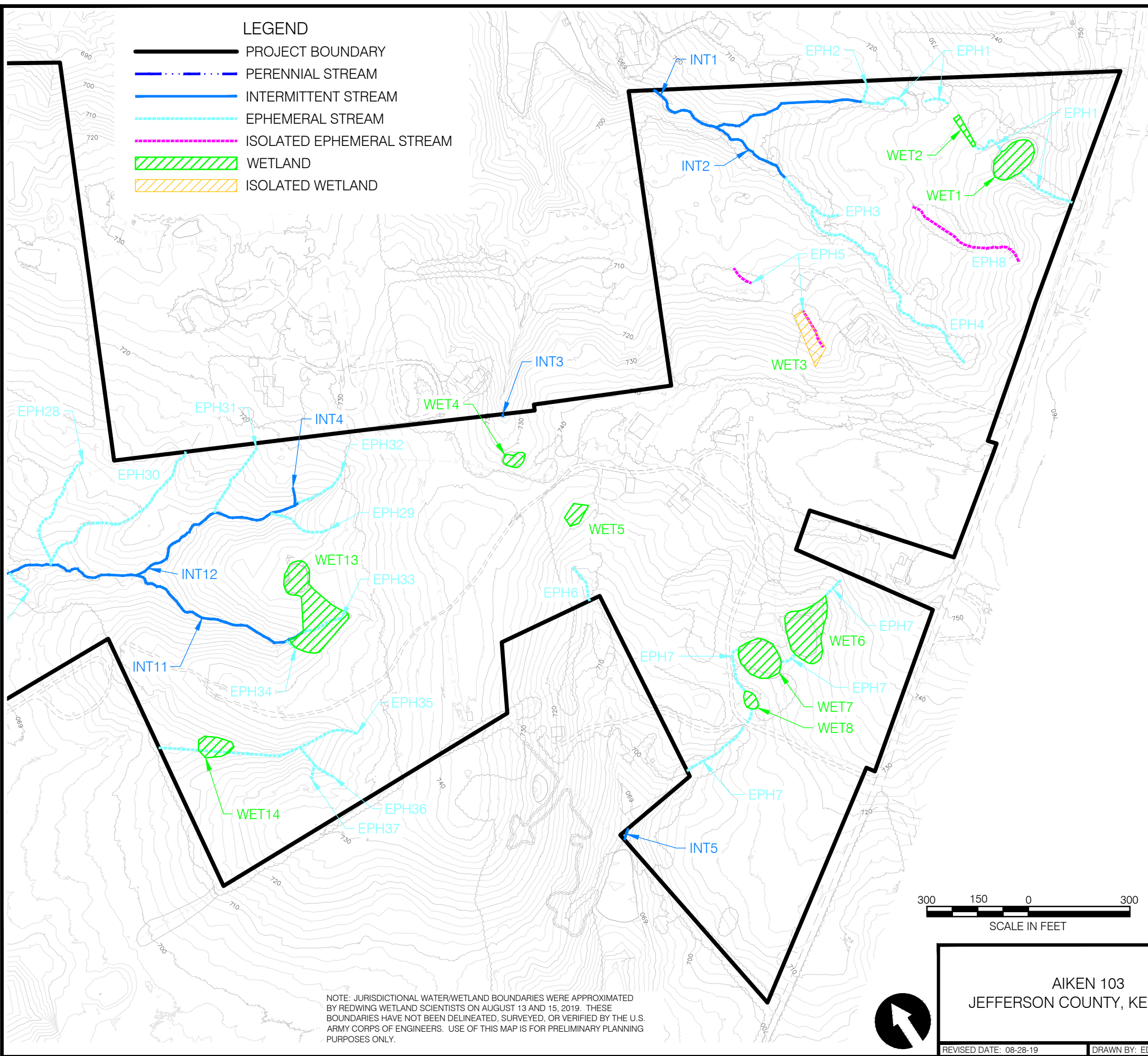


WATER/WETLAND  
LOCATION MAP

FIGURE 3  
SHEET 1 OF 2

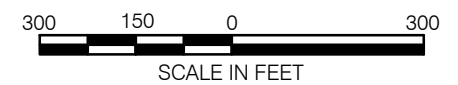
SOURCE: BASE MAP PROVIDED BY MINDEL, SCOTT & ASSOCIATES, INC.

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- LEGEND**
- PROJECT BOUNDARY
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SOURCE: BASE MAP PROVIDED BY MINDEL, SCOTT & ASSOCIATES, INC.



WATER/WETLAND  
LOCATION MAP

FIGURE 3  
SHEET 2 OF 2